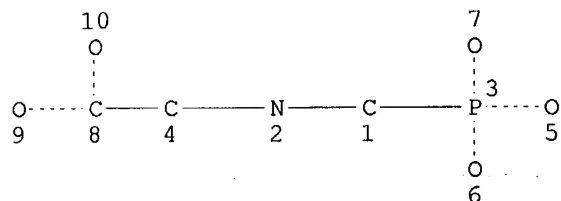


=> d que

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON N-PHOSPHONOMETHYLGLYCINE/CN
 L6 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L7 783 SEA FILE=REGISTRY FAM FUL L6
 L8 783 SEA FILE=REGISTRY ABB=ON PLU=ON L5 OR L7
 L9 771 SEA FILE=REGISTRY ABB=ON PLU=ON (102127-69-5/CRN OR 102413-71-8/CRN OR 102642-99-9/CRN OR 102985-68-2/CRN OR 103789-74-8/CRN OR 103789-75-9/CRN OR 103789-76-0/CRN OR 103789-77-1/CRN OR 103789-78-2/CRN OR 103789-79-3/CRN OR 103789-80-6/CRN OR 103789-81-7/CRN OR 103789-82-8/CRN OR 103789-83-9/CRN OR 103789-84-0/CRN OR 103789-85-1/CRN OR 103789-86-2/CRN OR 103789-87-3/CRN OR 103789-88-4/CRN OR 103789-89-5/CRN OR 103789-90-8/CRN OR 103789-91-9/CRN OR 103789-92-0/CRN OR 103789-93-1/CRN OR 103789-94-2/CRN OR 103789-95-3/CRN OR 103789-96-4/CRN OR 103789-97-5/CRN OR 103789-98-6/CRN OR 103789-99-7/CRN OR 103790-00-7/CRN OR 103790-01-8/CRN OR 103790-02-9/CRN OR 103790-03-0/CRN OR 103790-04-1/CRN OR 103790-05-2/CRN OR 103790-06-3/CRN OR 103790-07-4/CRN OR 103814-36-4/CRN OR 103814-37-5/CRN OR 104432-53-3/CRN OR 104432-54-4/CRN OR 104432-55-5/CRN OR 105195-22-0/CRN OR 105505-03-1/CRN OR 105884-68-2/CRN OR 106656-88-6/CRN OR 1071-83-6/CRN OR 108408-96-4/CRN OR 108408-97-5/CRN OR 110000-04-9/CRN OR 110020-51-4/CRN OR 110020-53-6/CRN OR 111175-95-2/CRN OR 111175-98-5/CRN OR 111621-77-3/CRN OR 112526-23-5/CRN OR 112740-48-4/CRN OR 114370-14-8/CRN OR 115169-14-7/CRN OR 116122-38-4/CRN OR 116160-29-3/CRN OR 116235-54-2/CRN OR 116235-56-4/CRN OR 116235-58-6/CRN OR 116495-07-9/CRN OR 116495-08-0/CRN OR 116775-20-3/CRN OR 116775-21-4/CRN OR 119495-36-2/CRN OR 121407-09-8/CRN OR 121407-10-1/CRN OR 122792-41-0/CRN OR 122792-42-1/CRN OR 122792-43-2/CRN OR 122850-73-1/CRN OR 122881-06-5/CRN OR 122996-66-1/CRN OR 123119-54-0/CRN OR 124973-83-7/CRN OR 124973-84-8/CRN OR 124973-85-9/CRN OR 124973-87-1/CRN OR 124974-04-5/CRN OR 124974-06-7/CRN OR 124974-07-8/CRN OR 124974-08-9/CRN OR 125019-04-7/CRN OR 125019-05-8/CRN OR 125119-93-9/CRN OR 125204-64-0/CRN OR 125204-65-1/CRN OR 125204-66-2/CRN OR 125204-68-4/CRN OR 1
 L10 783 SEA FILE=REGISTRY ABB=ON PLU=ON L8 OR L9

L12 26739 SEA FILE=HCAPLUS ABB=ON PLU=ON SURFACE TENSION+OLD/CT
 L13 1297 SEA FILE=HCAPLUS ABB=ON PLU=ON L10(L)AGR/RL
 L14 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND (TENSIO ACTIV? OR
 TENSIOACTIV? OR SURFACE TENS? OR L12)
 L15 43666 SEA FILE=HCAPLUS ABB=ON PLU=ON HERBICIDES+PFT/CT
 L17 786 SEA FILE=HCAPLUS ABB=ON PLU=ON L13 AND L15
 L18 5 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 AND (TENSIO ACTIV? OR
 TENSIOACTIV? OR SURFACE TENS? OR L12)
 (L19 11 SEA FILE=HCAPLUS} ABB=ON PLU=ON L14 OR L18

<=> d l19 ibib abs hitind hitstr 1-11}

L19 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2003:952227 HCAPLUS
 DOCUMENT NUMBER: 140:351999
 TITLE: Comparison of synergism of nine adjuvants to
 glyphosate
 AUTHOR(S): Zhu, Jinwen; Zhu, Guonian; Liu, Qiankai
 CORPORATE SOURCE: Institute of Pesticide and Environmental Toxicology,
 Zhejiang University, Hangzhou, 310029, Peop. Rep.
 China
 SOURCE: Nongyao (2003), 42(2), 19-21
 CODEN: NONGFP; ISSN: 1006-0413
 PUBLISHER: Nongyao Bianjibu
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB Alligator weed [Alternanthera philoxeroides (Mart.) Griseb.] was treated
 by glyphosate isopropylamine salt with nine adjuvants, resp. The results
 indicated that adjuvants UC-12, TL-800, JFC, Tween-20 were most effective.
 Their inhibition on fresh weight was increased by 6-20%, inhibition in root
 regeneration was increased by 8-12% when glyphosate was mixed with these
 adjuvants. The efficacy of reducing **surface tension**
 of glyphosate solution was by this order: Nonlu500 > 904 > APG > JFC > TL800
 > UC-12 > Tween-20 > 961 > SD. There was no close relationship between
 synergism of adjuvants and **surface tension** reducing
 level.

CC 5-3 (Agrochemical Bioregulators)
 ST glyphosate adjuvant synergism **surface tension**
 alligator weed control; Alternanthera control glyphosate adjuvant
 synergism **surface tension**

IT Alternanthera philoxeroides

Surface tension

Surfactants

Weed control

(synergism of adjuvants to glyphosate)

IT 38641-94-0, Glyphosate isopropylamine salt
 RL: AGR (Agricultural use); BSU (Biological study,
 unclassified); BIOL (Biological study); USES (Uses)
 (synergism of adjuvants to glyphosate)

IT 38641-94-0, Glyphosate isopropylamine salt
 RL: AGR (Agricultural use); BSU (Biological study,
 unclassified); BIOL (Biological study); USES (Uses)
 (synergism of adjuvants to glyphosate)

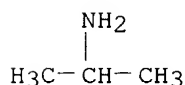
RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA
 INDEX NAME)

CM 1

CRN 1071-83-6
CMF C3 H8 N O5 P

CM 2

CRN 75-31-0
CMF C3 H9 N

L19 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:909438 HCAPLUS

DOCUMENT NUMBER: 138:282708

TITLE: Tank-mix adjuvants for agrochemicals

AUTHOR(S): Gauvrit, Christian

CORPORATE SOURCE: Laboratoire de Phytopharmacie INRA BP 86510, Dijon, 21065, Fr.

SOURCE: Agro-Food-Industry Hi-Tech (2002), 13(4), 42-46

CODEN: AIHTEI; ISSN: 1120-6012

PUBLISHER: TeknoScienze

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review on agrochem. adjuvants. Tank-mix adjuvants are increasingly used in Europe, mainly with herbicides. The expected benefits are dose reduction, regularization of efficacy and drift limitation. According to their modes of action, three main families can be outlined: surfactants, oils and salts. Surfactants lower the **surface tension** of the sprayed liquid and can also promote the foliar uptake of active ingredients (Als). Oils are above all "penetrating agents" compatible mostly with lipophilic Als, such as specific graminicides. Salts are preferably hygroscopic and are useful with hydrophilic Als, for example bentazone, glufosinate or glyphosate.

CC 5-0 (Agrochemical Bioregulators)

IT **Herbicides**

(tank-mix adjuvants for)

IT **1071-83-6**, Glyphosate. 25057-89-0, Bentazone 51276-47-2, GlufosinateRL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(salts as tank-mix adjuvants for)IT **1071-83-6**, Glyphosate.RL: **AGR (Agricultural use)**; BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(salts as tank-mix adjuvants for)

RN 1071-83-6 HCAPLUS
 CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:255992 HCAPLUS
 DOCUMENT NUMBER: 136:258729
 TITLE: Agrochemical fungicidal and herbicidal composition
 containing activity-enhancing adjuvants with reduced
 ecotoxicity
 INVENTOR(S): Bean, Michael John; Ramsay, Julia
 PATENT ASSIGNEE(S): Syngenta Limited, UK
 SOURCE: PCT Int. Appl., 17 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002026036	A1	20020404	WO 2001-GB4051	20010910
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2001086066	A5	20020408	AU 2001-86066	20010910
EP 1326493	A1	20030716	EP 2001-965422	20010910
EP 1326493	B1	20040519		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001014274	A	20031209	BR 2001-14274	20010910
JP 2004509905	T2	20040402	JP 2002-529872	20010910
NO 2003001439	A	20030528	NO 2003-1439	20030328
PRIORITY APPLN. INFO.:				
			GB 2000-23912	A 20000929
			WO 2001-GB4051	W 20010910
AB An agrochem. composition having improved efficacy and reduced ecotoxicity comprising: (i) an agrochem. active ingredient, such as fungicide or herbicide, (ii) an alkyl amine alkoxylate adjuvant {[H(OR)a][H(OR)a']NCH ₂ CH(CH ₂ CH ₃)(CH ₂) ₃ CH ₃ (R = (un)branched C ₂ -C ₄ alkylene(s); a + a' = 1-30) and salts and amine oxides thereof, and (iii) a secondary adjuvant a 0.5 % by weight solution in water of which has a dynamic surface tension of no more than 50mNm ⁻¹ at 40ms.				
ICM	A01N025-30			
ICS	A01N033-16; A01N057-20; A01N047-02; A01N039-02; A01N039-04			
CC	5-3 (Agrochemical Bioregulators)			

ST adjuvant amine fungicide herbicide ecotoxicity **surface tension**
 IT Fungicides
 Herbicides
 (activity-enhancing adjuvants with reduced ecotoxicity for fungicidal and herbicidal formulations)
 IT 94-74-6, MCPA **1071-83-6**, Glyphosate 16484-77-8, Mecoprop-P 51276-47-2, Glufosinate 72178-02-0, Fomesafen
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
 (activity-enhancing adjuvants with reduced ecotoxicity for herbicidal formulations containing)
 IT **1071-83-6**, Glyphosate
 RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
 (activity-enhancing adjuvants with reduced ecotoxicity for herbicidal formulations containing)
 RN 1071-83-6 HCAPLUS
 CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:208476 HCAPLUS

DOCUMENT NUMBER: 136:365276

TITLE: Dynamic **surface tension** of selected nonionic agricultural surfactants at surface ages relevant to component processes in spray application

AUTHOR(S): Cooper, Jane A.; Fox, Robert D.; Dexter, Robin D.; Bukovac, Martin J.

CORPORATE SOURCE: Entomology Department, Ohio State University/OARDC, Wooster, OH, 44601, USA

SOURCE: ASTM Special Technical Publication (2001), STP 1414(Pesticide Formulations and Application Systems: A New Century for Agricultural Formulations, Twenty First Volume), 50-60
 CODEN: ASTTA8; ISSN: 0066-0558

PUBLISHER: American Society for Testing and Materials

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Dynamic **surface tension** data for selected nonionic surfactants, pesticides and other miscellaneous liqs. are presented. **Surface tension** was measured using the oscillating jet technique at surface ages ranging from 0.5 to 7 ms. These early measurements are particularly important since new surfaces are being rapidly created, and they represent the time frame of spray droplet formation and impaction processes.

CC 5-6 (Agrochemical Bioregulators)

Section cross-reference(s): 46

ST **surface tension** surfactant pesticide spray

IT Paraffin oils

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (Crop oil; dynamic **surface tension** of spray

- additives for agricultural formulations)
- IT Alcohols, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(C11-14-isoalcs., C13-rich, ethoxylated; dynamic **surface tension** of agricultural surfactants for spray formulations)
- IT Sulfonic acids, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(C14-16-1-alkenesulfonic, sodium salts; dynamic **surface tension** of agricultural surfactants for spray formulations)
- IT Agrochemical formulations
(adjuvants; for agricultural spray formulations; dynamic **surface tension** of)
- IT Bacillus thuringiensis
(dynamic **surface tension** of agricultural pesticides for spray formulations)
- IT Pesticide formulations
Surface tension
Surfactants
(dynamic **surface tension** of agricultural surfactants for spray formulations)
- IT Pesticides
Solvents
(for agricultural spray formulations; dynamic **surface tension** of)
- IT 12427-38-2, Manzate 17804-35-2, Benlate **38641-94-0**, Roundup Ultra 51630-58-1, Pydrin 52645-53-1, Ambush 88671-89-0, Nova
RL: **AGR (Agricultural use)**; PRP (Properties); BIOL (Biological study); USES (Uses)
(dynamic **surface tension** of agricultural pesticides for spray formulations)
- IT 9002-93-1, Triton X-45 9003-11-6, Regulaid 9005-64-5, Tween 20 9014-85-1, Surfynol 440 9016-45-9, Igepal CO-530 11097-66-8, X-77 27306-78-1, Silwet L-77 53795-57-6, Triton CS-7 61827-42-7, Rhodasurf DA-530 143350-75-8, Kinetic 152987-15-0, Induce 176776-21-9, Soprophor FLK 187820-94-6, Surfynol 485W
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(dynamic **surface tension** of agricultural surfactants for spray formulations)
- IT 13558-31-1D, derivs.
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(dynamic **surface tension** of compds. used in agricultural spray formulations)
- IT 7732-18-5D, Water, copper ionized, properties
RL: PRP (Properties)
(dynamic **surface tension** of compds. used in agricultural spray formulations)
- IT 64-17-5, Ethyl alcohol, uses 67-63-0, Isopropanol, uses
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(dynamic **surface tension** of solvents for agricultural spray formulations)
- IT 58318-77-7, Nalcotrol 114797-22-7, Bond (latex) 147335-78-2, Sunit II
RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(dynamic **surface tension** of spray additives for agricultural formulations)
- IT **38641-94-0**, Roundup Ultra
RL: **AGR (Agricultural use)**; PRP (Properties); BIOL (Biological study); USES (Uses)

(dynamic **surface tension** of agricultural pesticides
for spray formulations)

RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA
INDEX NAME)

CM 1

CRN 1071-83-6

CMF C3 H8 N O5 P

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

CM 2

CRN 75-31-0

CMF C3 H9 N

$\begin{array}{c} \text{NH}_2 \\ | \\ \text{H}_3\text{C}-\text{CH}-\text{CH}_3 \end{array}$

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:15834 HCAPLUS

DOCUMENT NUMBER: 132:147950

TITLE: N-acylsarcosinate: a safe, effective and eco-friendly
adjuvant for glyphosate

AUTHOR(S): Crudden, J. J.; Cullen, B. A.; Emmons, C. W.; Steffel,
J.

CORPORATE SOURCE: Hampshire Chemical Corporation, A subsidiary of The
Dow Chemical Company, Nashua, NH, USA

SOURCE: Brighton Conference--Weeds (1999), (Vol. 1), 237-242
CODEN: BCWEFI

PUBLISHER: British Crop Protection Council

DOCUMENT TYPE: Journal

LANGUAGE: English

AB N-acylsarcosinates have a long history of safe use in personal care
products such as shampoo and toothpaste. Glyphosate formulations containing
sarcosinate as the sole adjuvant were shown to exhibit excellent efficacy
at low surfactant concentration and to reduce the **surface**
tension of the system to below 25 mN m⁻¹, at use concentration. Aquatic
toxicity studies have shown that these systems are more than an order of
magnitude less toxic to rainbow trout than conventional glyphosate
systems. An in-vitro corneal toxicity study shows that the
sarcosinate-based glyphosate systems exhibit no toxicity to bullock
corneal tissue, while conventional formulations cause severe damage under
the same conditions. The results of field studies, at elevated
application rates, on glyphosate-tolerant corn shows that conventional
glyphosate formulations can cause severe stunting and deformation of the

plants while the sarcosinate-based formulations cause no significant damage.

CC 5-3 (Agrochemical Bioregulators)
IT 1071-83-6, Glyphosate 38641-94-0, Roundup
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(N-acylsarcosinates as safe, effective and ecol.-friendly adjuvants for glyphosate)
IT 1071-83-6, Glyphosate 38641-94-0, Roundup
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(N-acylsarcosinates as safe, effective and ecol.-friendly adjuvants for glyphosate)
RN 1071-83-6. HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

RN 38641-94-0 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)
CM 1
CRN 1071-83-6
CMF C3 H8 N O5 P

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

CM 2
CRN 75-31-0
CMF C3 H9 N

$\begin{array}{c} \text{NH}_2 \\ | \\ \text{H}_3\text{C}-\text{CH}-\text{CH}_3 \end{array}$

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:15797 HCAPLUS
DOCUMENT NUMBER: 132:133541
TITLE: Effect of two adjuvant types on the distribution of 14C-glyphosate applied to model weed species
AUTHOR(S): Sharma, S. D.; Singh, M.
CORPORATE SOURCE: University of Florida's Citrus Research and Education Center, Lake Alfred, FL, 33850, USA
SOURCE: Brighton Conference--Weeds (1999), (Vol. 2), 729-734
CODEN: BCWEFI
PUBLISHER: British Crop Protection Council

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Several model weed species, *Sida spinosa*, *Abutilon theophrasti* and *Cassia obtusifolia*, with varying amts. of polar waxes on their adaxial surface, were treated with 14C-glyphosate alone and formulated with X-77 and L-77 to determine the distribution pattern of 14C. The contact angle and 14C-distribution were significantly affected by both the presence of different waxes on plants and addition of adjuvants in a formulation of glyphosate. The **surface tension** values of L-77 alone and when added to the herbicide were minimal and so were contact angle values when measured on Teflon slide. Droplets of this solution spread quickly when measured on test leaves. The uptake and translocation of 14C-glyphosate decreased significantly as the percentage of polar waxes increased. However, these values were significantly higher with the addition of L-77 for all test species. This effect may be due to a minimal **surface tension**, contact angle, and/or solubilization of epicuticular waxes. Greenhouse efficacy evaluation trials with above formulations did not show a similar pattern, although a significantly higher percentage of control of test weed species was recorded when plants were sprayed with glyphosate formulated with an organosilicon.

CC 5-3 (Agrochemical Bioregulators)

IT 1071-83-6, Glyphosate
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(effect of adjuvants and adaxial surface wax on distribution of glyphosate in weeds)

IT 1071-83-6, Glyphosate
RL: **AGR (Agricultural use)**; BIOL (Biological study); USES (Uses)
(effect of adjuvants and adaxial surface wax on distribution of glyphosate in weeds)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:627970 HCAPLUS

DOCUMENT NUMBER: 125:295161

TITLE: Relationship of organosilicone adjuvant structure and phase behavior to activity enhancement of acifluorfen and glyphosate

AUTHOR(S): Burow, Richard F.; Penner, Donald; Roggenbuck, Frank C.; Hill, Randall M.

CORPORATE SOURCE: Dow Corning Corporation, Midland, MI, 48686-0994, USA
SOURCE: FRI Bulletin (1996), Volume Date 1995, 193 (Proceedings of the Fourth International Symposium on Adjuvants for Agrochemicals, 1995), 54-59

CODEN: FRIBJ; ISSN: 0111-8129

PUBLISHER: New Zealand Forest Research Institute

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A clear relationship has been established between organosilicone adjuvant structure and activity enhancement of water-soluble herbicides, such as

acifluorfen and glyphosate, on broadleaf weeds. Activity enhancement increases as the siloxane chain decreases in length. Enhancement of activity reaches a maximum when the average polyether chain-length is about 7. Thus, maximum activity enhancement and rain-fastness are achieved with the trisiloxane adjuvants having a polyether chain of 7 units. An acetyl terminal group on the polyether chain produces a somewhat greater enhancement with acifluorfen on velvetleaf, but not with glyphosate on velvetleaf. On giant foxtail with glyphosate, the greatest activity enhancement was achieved with hydrogen as the terminal atom on the polyether chain. Equilibrium **surface tension** values are not good predictors of the capacity of an organosilicone adjuvant to enhance herbicide activity. Ultra-low equilibrium **surface tension** appears to be a feature of organosilicone adjuvants exhibiting good herbicide activity enhancement and rain-fastness, yet some organosilicone adjuvants (S-4 and S-6) having low **surface tensions** did not produce optimal enhancement and consistent rain-fastness. Dynamic interfacial tensions against aliphatic hydrocarbon liqs. may be more useful to predict adjuvancy. Surfactant phase behavior appears to offer clues to the processes by which those organosilicone adjuvants function which offer the greatest enhancement. These are those which form a dispersion of a surfactant-rich phase (especially the lamellar

liquid

crystal phase) in the concentration range in which they are used.

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**

(relationship of organosilicone adjuvant structure and phase behavior to activity enhancement of acifluorfen and glyphosate)

IT 1071-83-6, Glyphosate 50594-66-6, Acifluorfen

RL: **AGR (Agricultural use)**; **BIOL (Biological study)**; **USES (Uses)**

(relationship of organosilicone adjuvant structure and phase behavior to activity enhancement of acifluorfen and glyphosate)

IT 1071-83-6, Glyphosate

RL: **AGR (Agricultural use)**; **BIOL (Biological study)**; **USES (Uses)**

(relationship of organosilicone adjuvant structure and phase behavior to activity enhancement of acifluorfen and glyphosate)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

L19 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:237200 HCAPLUS

DOCUMENT NUMBER: 122:3485

TITLE: Effect of adjuvants on rainfastness and herbicidal activity of glyphosate deposits on trembling aspen foliage

AUTHOR(S): Leung, John W.; Webster, Barrie G. R.

CORPORATE SOURCE: Natural Resources Canada, Forest Pest Management Institute, Sault Ste. Marie, ON, P6A 5M7, Can.

SOURCE: Journal of Environmental Science and Health, Part B: Pesticides, Food Contaminants, and Agricultural Wastes (1994), B29(6), 1169-201

CODEN: JPFCD2; ISSN: 0360-1234

PUBLISHER: Dekker

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Radiolabeled end-use mixtures of glyphosate with and without a cationic surfactant (Ethomeen T/25) and an organosilicone surfactant (Silwet L-77) were applied onto trembling aspen (*Populus tremuloides*) leaves at 1.0 kg of AE (acid equivalent) in 35 L/ha area of foliage. A 5-mm rainfall with an intensity of 10 mm/h was applied at intervals of 0.5, 8, 24, 36, 48, 72, and 96 h after treatment. Glyphosate washoff was determined by liquid scintillation counting of radioactivity in the rain-washing. At 36 h post-treatment, both the adjuvants significantly reduced glyphosate washoff (Ethomeen by 69.6% and Silwet by 59.7%) from foliage, compared to the washoff (82.6%) when Vision alone was applied without the adjuvants. Results of the rate of plant growth indicated that with a rain-free period of 8 h or more, the growth of most seedlings was stunted within 1 or 2 d. Percentage of foliar browning 20 d after treatment with rain-free period of 8 to 48 h ranged from 8 to 80% for Vision alone, 75 to 100% for Vision with Ethomeen, and 85 to 100% for Vision with Silwet, resp. Phys. properties of the end-use mixts. were measured with and without the two adjuvants to examine droplet spreading and drying rates in relation glyphosate rainfastness. The Silwet adjuvant lowered the **surface tension** of the end-use mixture, but Ethomenn did not. Droplets containing Silwet were spread more than those containing Ethomeen. However,

the

greater area of contact caused by Silwet did not contribute to a significant increase in the translocation rate of glyphosate into untreated parts of the seedlings, and showed no relationship with rainfastness of glyphosate deposits on trembling aspen.

CC 5-3 (Agrochemical Bioregulators)

IT 1071-83-6, Glyphosate 38641-94-0, Vision

RL: AGR (Agricultural use); PRP (Properties); BIOL (Biological study); USES (Uses)

(effect of adjuvants on rainfastness and herbicidal activity of glyphosate deposits on trembling aspen foliage)

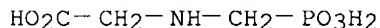
IT 1071-83-6, Glyphosate 38641-94-0, Vision

RL: AGR (Agricultural use); PRP (Properties); BIOL (Biological study); USES (Uses)

(effect of adjuvants on rainfastness and herbicidal activity of glyphosate deposits on trembling aspen foliage)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



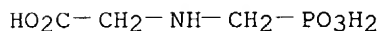
RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)

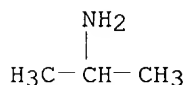
CM 1

CRN 1071-83-6

CMF C3 H8 N O5 P



CM 2

CRN 75-31-0
CMF C3 H9 N

L19 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:127628 HCAPLUS

DOCUMENT NUMBER: 120:127628

TITLE: Effect of organosilicone-based adjuvants on herbicide efficacy

AUTHOR(S): Singh, Megh; Maci, Robert E.

CORPORATE SOURCE: Citrus Res. Educ. Cent., Univ. Florida, Lake Alfred, FL, 33850, USA

SOURCE: Pesticide Science (1993), 38(2-3), 219-25

CODEN: PSSCBG; ISSN: 0031-613X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Laboratory and field expts. were conducted to evaluate the efficacy of the postemergence herbicides, fluazifop-P-Bu, glyphosate-isopropylammonium, paraquat, and glyphosate-trimesium (sulfosate) as influenced by organosilicone-based adjuvants, "Dyne-Amic" and "kinetic". Conventional adjuvants "Agri-Dex" and "Induce" were included in all expts. for comparison. The exptl. plots were naturally infested with bahiagrass, camphorweed, common lambsquarters, Florida pussley, Jerusalem oak, hairy beggarticks, pigweed, and teaweed. Herbicides were applied alone or in combination with "Dyne-Amic", "Kinetic", "Agri-dex", or "Induce" using a tractor-mounted boom sprayer. "Dyne-Amic" (2.5 mL/L) was as effective as "Agri-dex" (10 mL/L) in increasing the efficacy of herbicides on grass and broadleaf weeds studied. "Kinetic" at 2.5 mL/L was as effective as "Induce" at 2.5 mL/L in increasing the efficacy of herbicides on the weeds studied. Paraquat tank-mixts. with the preemergence herbicides bromacil and diuron were more effective when applied at a spray volume of 280 L/ha than at 140 L/ha. Fluazifop-P-Bu and glyphosate-isopropylammonium were more effective at 186 than at 93 L/ha. Addition of "Kinetic" or "Induce" to the herbicide spray solution had no effect on pH, but fluazifop-P-Bu reduced pH to 5.1 or increased it to 7.7 when added to the 93 and 186 L ha⁻¹ prepns., resp. Glyphosate-isopropylammonium reduced pH to 5.0 at the lower, but had little effect on pH at the higher rate. Reduction in static **surface tension** and contact angle was greater with organosilicone-based adjuvants than with conventional adjuvants.

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**

(organosilicone adjuvants effect on efficacy of)

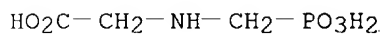
IT **Surface tension**

(static, organosilicone adjuvants reduction of)

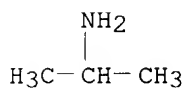
IT 1910-42-5 8071-35-0, Krovar-I **38641-94-0**, Roundup79241-46-6, Fusilade 2000 **81591-81-3**, TouchdownRL: **AGR (Agricultural use)**; BAC (Biological activity or

effector, except adverse); BSU (Biological study, unclassified); BIOL

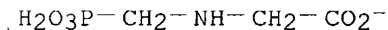
(Biological study); USES (Uses)
 (herbicidal activity of, organosilicone adjuvants effect on)
 IT 38641-94-0, Roundup 81591-81-3, Touchdown
 RL: AGR (Agricultural use); BAC (Biological activity or
 effector, except adverse); BSU (Biological study, unclassified); BIOL
 (Biological study); USES (Uses)
 (herbicidal activity of, organosilicone adjuvants effect on)
 RN 38641-94-0 HCAPLUS
 CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA
 INDEX NAME)
 CM 1
 CRN 1071-83-6
 CMF C3 H8 N O5 P



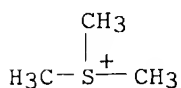
CM 2
 CRN 75-31-0
 CMF C3 H9 N



RN 81591-81-3 HCAPLUS
 CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium (9CI) (CA
 INDEX NAME)
 CM 1
 CRN 81591-80-2
 CMF C3 H7 N O5 P



CM 2
 CRN 676-84-6
 CMF C3 H9 S



L19 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:126549 HCAPLUS

DOCUMENT NUMBER: 108:126549

TITLE: The influence of different adjuvants on the phytotoxicity of glyphosate and fluazifop-p-butyl

AUTHOR(S): De Ruiter, H.; Hoekstra, J. R.; Uffing, A. J. M.

CORPORATE SOURCE: Cent. Agrobiol. Res., Wageningen, 6700 AA, Neth.

SOURCE: Mededelingen van de Faculteit Landbouwwetenschappen, Universiteit Gent (1987), 52(3B), 1217-24
CODEN: MFLRA3; ISSN: 0368-9697

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The soluble glyphosate and the insol. fluazifop-p-Bu were selected for this study. Both compds. are systemic and can move in both the phloem and xylem. Winter wheat is susceptible to both herbicides. The following adjuvants were selected: the cationic surfactant Armoblen T/25

(polyoxyethylene (15) alkylamine), the nonionic surfactant Agral LN (polyoxyethylene (8-9) nonylphenol), emulsified rape seed oil, Ulvapron (emulsified mineral oil), and ammonium sulfate. Armoblen T/25 increased the activity of glyphosate more than did Agral LN. Both surfactants enhance the activity of fluazifop-p-Bu. The difference in the amts. of surfactant added (the active ingredient) does not allow to compare the 2 surfactants. Ammonium sulfate increases the activity of glyphosate, whereas the activity of fluazifop-p-Bu is not influenced. Addition of the mineral oil decreased the glyphosate activity, whereas rape seed oil increased the glyphosate activity. However, both oils enhance the effect of fluazifop-p-Bu. Oil concns. >0.5% (volume/volume) are required for a maximal effect. Addition of the surfactants at 0.5% volume/volume and rape

seed oil at 5 and 20% (volume/volume) increases the deposition on the difficult to wet wheat plants by 2-3-fold. Particularly with fluazifop-p-Bu the adjuvants enhance the deposition, whereas the **surface tension** is unaltered.

CC 5-3 (Agrochemical Bioregulators)

IT 38641-94-0, Roundup 69806-50-4

RL: **AGR (Agricultural use)**; BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(herbicidal activity of, adjuvants effect on)

IT 38641-94-0, Roundup

RL: **AGR (Agricultural use)**; BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(herbicidal activity of, adjuvants effect on)

RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)

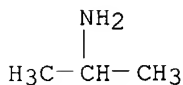
CM 1

CRN 1071-83-6

CMF C3 H8 N O5 P

HO₂C-CH₂-NH-CH₂-PO₃H₂

CM 2

CRN 75-31-0
CMF C3 H9 N

L19 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1981:97987 HCAPLUS
 DOCUMENT NUMBER: 94:97987
 TITLE: Engineering improved chemical performance in plants
 INVENTOR(S): Sampson, Michael James
 PATENT ASSIGNEE(S): UK
 SOURCE: PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8002360	A1	19801113	WO 1980-GB87	19800512
W: AU, BR, DK, JP, US				
RW: AT, DE, FR, GB, NL, SE				
EP 28611	A1	19810520	EP 1980-900782	19800512
R: AT, DE, FR, GB, NL, SE				
PRIORITY APPLN. INFO.:			GB 1979-16133	19790510
			GB 1979-21035	19790616

AB The activity of plant growth regulators and herbicides is improved by the addition of surfactants at rates higher than those required for reducing **surface tension**. Coating agents might be included in the formulations. Thus, chlormequat [999-81-5] (460 g/L) reduced the stem height of wheat by 10.9%. When 0.75% alkyl phenol ethylene oxide condensate was added, height reduction was 13.5%.

IC A01N025-00; A01N025-32; A01N025-24; A01N043-40

CC 5-3 (Agrochemicals)

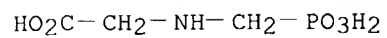
IT **Herbicides**
(surfactants enhancement of activity of)

IT **1071-83-6**
RL: **AGR (Agricultural use)**; BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(herbicidal activity of, surfactants in enhancement of)

IT **1071-83-6**
RL: **AGR (Agricultural use)**; BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(herbicidal activity of, surfactants in enhancement of)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



=> d que

L30 12 SEA FILE=WPIX ABB=ON PLU=ON SOLID(3A)GLYPHOSAT? AND HERBICID?

L31 8 SEA FILE=WPIX ABB=ON PLU=ON L30 AND (SURFAC? OR TENSIO ACT?
OR TENSIOACT?)

=> d bib abs 1-8;

L31 ANSWER 1 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2004-317183 [30] WPIX

DNC C2004-120385

TI Soluble solid dosage typed salt of glyphosate.

DC C01

IN REN, B; ZHENG, H; ZHOU, S

PA (XINA-N) XINAN CHEM IND CO LTD ZHEJIANG

CYC 1

PI CN 1462582 A 20031224 (200430)*

ADT CN 1462582 A CN 2002-119480 20020527

PRAI CN 2002-119480 20020527

AN 2004-317183 [30] WPIX

AB CN 1462582 A UPAB: 20040511

NOVELTY - Soluble **glyphosate solid** is prepared from **glyphosate** (20-80 weight%), **surfactant** (5-20 weight%) and filler (0-75 wt%) comprising ammonium sulfate, urea and potassium dihydrogen phosphate.

USE - Used as **herbicide**.

Dwg.0/0

L31 ANSWER 2 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2002-062001 [08] WPIX

DNC C2002-017647

TI Solid **herbicidal** composition comprises flazasulfuron and glyphosate, glufosinate or bilanafos with **surfactant** and stabilizer.

DC C01 C02

IN MAEDA, M; SHIMIZU, M

PA (ISHH) ISHIHARA SANGYO KAISHA LTD; (MAED-I) MAEDA M; (SHIM-I) SHIMIZU M

CYC 96

PI WO 2001080644 A1 20011101 (200208)* JA 21

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

JP 2002012509 A 20020115 (200208) 8

AU 2001052576 A 20011107 (200219)

EP 1277405 A1 20030122 (200308) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI TR

BR 2001010399 A 20030408 (200329)

US 2003100449 A1 20030529 (200337)

ADT WO 2001080644 A1 WO 2001-JP3578 20010425; JP 2002012509 A JP 2001-111821
20010410; AU 2001052576 A AU 2001-52576 20010425; EP 1277405 A1 EP
2001-925914 20010425, WO 2001-JP3578 20010425; BR 2001010399 A BR

2001-10399 20010425, WO 2001-JP3578 20010425; US 2003100449 A1 WO
2001-JP3578 20010425, US 2002-258449 20021024
FDT AU 2001052576 A Based on WO 2001080644; EP 1277405 A1 Based on WO
2001080644; BR 2001010399 A Based on WO 2001080644
PRAI JP 2000-125475 20000426
AN 2002-062001 [08] WPIX
AB WO 200180644 A UPAB: 20020204
NOVELTY - Solid **herbicide** composition comprises:
(i) 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-
pyridylsulfonyl)urea (flazasulfuron) or its salt;
(ii) N-(phosphonomethyl)glycine (glyphosate), 4-
(hydroxy(methyl)phosphinoyl)homoalanine (glufosinate) and/or
4-(hydroxy(methyl)phosphinoyl)homoalanylalanylalanine (bilanafos) or their
salts;
(iii) a **surfactant**; and
(iv) a stabilizer.
ACTIVITY - **Herbicide**.
MECHANISM OF ACTION - None given in the source material.
USE - For use as a solid **herbicide**.
ADVANTAGE - The composition has improved stability.

Dwg.0/0

L31 ANSWER 3 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2001-191392 [19] WPIX
DNC C2001-057302
TI Preparation of ammonium glyphosate paste for preparation of
herbicides.
DC C01
IN KRAMER, R M; MASSMANN, B D; TOUSSAINT, M; WANG, J T; MASSMAN, B D;
TOUSSAINT, M E; TOUSSANT, M
PA (MONS) MONSANTO EURO SA; (MONS) MONSANTO TECHNOLOGY LLC; (MONS) MONSANTO
CO; (MONS) MONSANTO TECHNOLOGY LLP
CYC 94
PI WO 2001008492 A1 20010208 (200119)* EN 37
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ..
NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000064970 A 20010219 (200129)
BR 2000013186 A 20020402 (200231)
EP 1199933 A1 20020502 (200236) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
CZ 2002000254 A3 20020717 (200260)
KR 2002029079 A 20020417 (200268)
CN 1365254 A 20020821 (200281)
HU 2002002878 A2 20021228 (200308)
JP 2003505481 W 20030212 (200321) 45
ZA 2002000231 A 20030625 (200348) 44
US 6605568 B1 20030812 (200355)
MX 2002000979 A1 20030701 (200420)
ADT WO 2001008492 A1 WO 2000-US20485 20000727; AU 2000064970 A AU 2000-64970
20000727; BR 2000013186 A BR 2000-13186 20000727, WO 2000-US20485
20000727; EP 1199933 A1 EP 2000-952234 20000727, WO 2000-US20485 20000727;
CZ 2002000254 A3 WO 2000-US20485 20000727, CZ 2002-254 20000727; KR

2002029079 A KR 2002-700378 20020110; CN 1365254 A CN 2000-810916
 20000727; HU 2002002878 A2 WO 2000-US20485 20000727, HU 2002-2878
 20000727; JP 2003505481 W WO 2000-US20485 20000727, JP 2001-513239
 20000727; ZA 2002000231 A ZA 2002-231 20020110; US 6605568 B1 Provisional
 US 1999-146243P 19990728, US 2000-627078 20000727; MX 2002000979 A1 WO
 2000-US20485 20000727, MX 2002-979 20020125
 FDT AU 2000064970 A Based on WO 2001008492; BR 2000013186 A Based on WO
 2001008492; EP 1199933 A1 Based on WO 2001008492; CZ 2002000254 A3 Based
 on WO 2001008492; HU 2002002878 A2 Based on WO 2001008492; JP 2003505481 W
 Based on WO 2001008492; MX 2002000979 A1 Based on WO 2001008492
 PRAI US 1999-146243P 19990728; US 2000-627078 20000727
 AN 2001-191392 [19] WPIX
 AB WO 200108492 A UPAB: 20010829

NOVELTY - Preparation of ammonium glyphosate (I) paste comprises mixing 1 weight part **solid**, particulate **glyphosate** acid (II), 0.8-1.25 mole equivalents ammonia per mole (I) and 10-25 weight% water, in a vessel, causing reaction of (I) and ammonia, generating heat causing partial evaporation of water to give a paste having a moisture content of 5-20 weight%.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) the preparation of a dry granular **herbicidal** composition comprising:

(a) mixing 1 weight part particulate glyphosate acid (II), 0.8-1.25 mole equivalents ammonia per mole (I) and 10-25 weight% water, in a vessel, causing reaction of (I) and ammonia, generating heat causing partial evaporation of water to form a paste and then, if the paste has a moisture content greater than 15 weight% applying heat and/or vacuum to reduce the moisture content of the paste to 5-15 weight%;

(b) adding , with mixing, one or more **surfactants** in a weight ratio of **surfactant**:(I) of 1:9-1:3 to form an extrudable wet mix;

(c) extruding the wet mix to form extrudate strands that break to form moist coherent granules;

(d) drying the granules to produce a dry granular formulation; and

(2) the paste prepared by either of the above processes.

ACTIVITY - **Herbicides**.

MECHANISM OF ACTION - None given.

USE - For preparation of ammonium glyphosate paste suitable or downstream processing to prepare dry, water-soluble granular **herbicides** optionally

ADVANTAGE - Reaction is completed with greater speed than prior art process, requiring much shorter residence times for glyphosate in the reaction vessel, one-tenth or less of the residence time required by solid state processes, making it practical on a manufacturing scale to operate the process in continuous mode rather than batch mode.

DESCRIPTION OF DRAWING(S) - The figure shows the process flow diagram.

Dwg.1/4

L31 ANSWER 4 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2001-182838 [18] WPIX

DNC C2001-054549

TI New process for preparation of ammonium glyphosate flakes.

DC C01 C07

IN KRAMER, R M

PA (MONS) MONSANTO CO; (MONS) MONSANTO TECHNOLOGY LLC; (MONS) MONSANTO

TECHNOLOGY LLP
CYC 95
PI WO 2001008491 A1 20010208 (200118)* EN 21
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM
DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC
LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000063781 A 20010219 (200129)
EP 1199932 A1 20020502 (200236) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
BR 2000012841 A 20020507 (200238)
CZ 2002000253 A3 20020814 (200263)
KR 2002029077 A 20020417 (200268)
CN 1365255 A 20020821 (200281)
HU 2002002390 A2 20021128 (200309)
JP 2003505480 W 20030212 (200321) 29
EP 1199932 B1 20030326 (200323) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
DE 60001838 E 20030430 (200336)
ZA 2001010538 A 20030528 (200341) 27
US 6599858 B1 20030729 (200354)
MX 2002001082 A1 20020901 (200370)
ADT WO 2001008491 A1 WO 2000-US20337 20000726; AU 2000063781 A AU 2000-63781
20000726; EP 1199932 A1 EP 2000-950717 20000726; WO 2000-US20337 20000726;
BR 2000012841 A BR 2000-12841 20000726; WO 2000-US20337 20000726; CZ
2002000253 A3 WO 2000-US20337 20000726; CZ 2002-253 20000726; KR
2002029077 A KR 2002-700376 20020110; CN 1365255 A CN 2000-811043
20000726; HU 2002002390 A2 WO 2000-US20337 20000726; HU 2002-2390
20000726; JP 2003505480 W WO 2000-US20337 20000726; JP 2001-513238
20000726; EP 1199932 B1 EP 2000-950717 20000726; WO 2000-US20337 20000726;
DE 60001838 E DE 2000-00001838 20000726; EP 2000-950717 20000726; WO
2000-US20337 20000726; ZA 2001010538 A ZA 2001-10538 20011221; US 6599858
B1 Provisional US 1999-146261P 19990729; US 2000-703077 20000725; MX
2002001082 A1 WO 2000-US20337 20000726; MX 2002-1082 20020129
FDT AU 2000063781 A Based on WO 2001008491; EP 1199932 A1 Based on WO
2001008491; BR 2000012841 A Based on WO 2001008491; CZ 2002000253 A3 Based
on WO 2001008491; HU 2002002390 A2 Based on WO 2001008491; JP 2003505480 W
Based on WO 2001008491; EP 1199932 B1 Based on WO 2001008491; DE 60001838
E Based on EP 1199932, Based on WO 2001008491; MX 2002001082 A1 Based on
WO 2001008491
PRAI US 1999-146261P 19990729; US 2000-703077 20000725
AN 2001-182838 [18] WPIX
AB WO 200108491 A UPAB: 20010402
NOVELTY - Preparation of ammonium glyphosate (I) flakes comprises:
(a) mixing 1 weight part **solid**, particulate
glyphosate acid (II), water and a base;
(b) allowing the base to react with (II);
(c) drying by contact with a heated **surface** to form,
primarily by evaporation of water, a solid deposit on the heated
surface; and
(d) scraping the solid deposit off the heated **surface** to
recover dry flakes of (I).
DETAILED DESCRIPTION - Preparation of ammonium glyphosate (I) flakes

comprises:

- (a) mixing 1 weight part **solid**, particulate **glyphosate** acid (II), 0.5-3 weight parts water and a base that supplies 0.8-1.25 moles equivalents ammonia per mole (I);
- (b) allowing the base to react with (II);
- (c) drying by contact with a heated **surface** to form, primarily by evaporation of water, a solid deposit on the heated **surface**; and
- (d) scraping the solid deposit off the heated **surface** to recover dry flakes of (I).

An INDEPENDENT CLAIM is also included for the ammonium glyphosate flakes.

ACTIVITY - **Herbicide**.

MECHANISM OF ACTION - None given.

USE - For production of **herbicidal** ammonium glyphosate flakes for further processing, e.g. milling to form a powder. The powder or flakes are used in granulation processes optionally involving **surfactants** or for use as **herbicides** by dissolving in water to form **herbicide** solutions.

ADVANTAGE - The flakes dissolve rapidly and completely in water and the flakes break readily to form smaller flakes, but are non-dusty.

DESCRIPTION OF DRAWING(S) - The figure shows the process flow diagram.
Dwg.1/1

L31 ANSWER 5 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2001-182836 [18] WPIX
DNC C2001-054547
TI Preparation of ammonium glyphosate powder useful as a **herbicide**.
DC C01 C07
IN KRAMER, R M
PA (MONS) MONSANTO CO; (MONS) MONSANTO TECHNOLOGY LLC; (MONS) MONSANTO TECHNOLOGY LLP
CYC 94
PI WO 2001008480 A1 20010208 (200118)* EN 48
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI
SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2000063783 A 20010219 (200129)
EP 1199927 A1 20020502 (200236) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
BR 2000012839 A 20020430 (200237)
CZ 2002000255 A3 20020814 (200263)
US 6448434 B1 20020910 (200263)
KR 2002029078 A 20020417 (200268)
CN 1365252 A 20020821 (200281)
HU 2002002337 A2 20021128 (200309)
JP 2003505477 W 20030212 (200321) 60
ZA 2001010543 A 20030528 (200341) 53
EP 1199927 B1 20030716 (200354) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
RO SE SI
AU 763848 B 20030731 (200359)

DE 60003929 E 20030821 (200362)
 MX 2002001083 A1 20020901 (200370)
 ADT WO 2001008480 A1 WO 2000-US20340 20000726; AU 2000063783 A AU 2000-63783
 20000726; EP 1199927 A1 EP 2000-950719 20000726, WO 2000-US20340 20000726;
 BR 2000012839 A BR 2000-12839 20000726, WO 2000-US20340 20000726; CZ
 2002000255 A3 WO 2000-US20340 20000726, CZ 2002-255 20000726; US 6448434
 B1 Provisional US 1999-146281P 19990729, US 2000-624949 20000725; KR
 2002029078 A KR 2002-700377 20020110; CN 1365252 A CN 2000-811041
 20000726; HU 2002002337 A2 WO 2000-US20340 20000726, HU 2002-2337
 20000726; JP 2003505477 W WO 2000-US20340 20000726, JP 2001-513228
 20000726; ZA 2001010543 A ZA 2001-10543 20011221; EP 1199927 B1 EP
 2000-950719 20000726, WO 2000-US20340 20000726; AU 763848 B AU 2000-63783
 20000726; DE 60003929 E DE 2000-00003929 20000726, EP 2000-950719
 20000726, WO 2000-US20340 20000726; MX 2002001083 A1 WO 2000-US20340
 20000726, MX 2002-1083 20020129
 FDT AU 2000063783 A Based on WO 2001008480; EP 1199927 A1 Based on WO
 2001008480; BR 2000012839 A Based on WO 2001008480; CZ 2002000255 A3 Based
 on WO 2001008480; HU 2002002337 A2 Based on WO 2001008480; JP 2003505477 W
 Based on WO 2001008480; EP 1199927 B1 Based on WO 2001008480; AU 763848 B
 Previous Publ. AU 2000063783, Based on WO 2001008480; DE 60003929 E Based
 on EP 1199927, Based on WO 2001008480; MX 2002001083 A1 Based on WO
 2001008480
 PRAI US 1999-146281P 19990729; US 2000-624949 20000725
 AN 2001-182836 [18] WPIX
 AB WO 200108480 A UPAB: 20010402
 NOVELTY - Préparation of ammonium glyphosate (I) powder comprises:
 (a) mixing 1 weight part **solid**, particulate
glyphosate acid (II) with parts water
 (b) allowing the base to react with (II);
 (c) drying to recover a particulate solid (I); and
 (d) accelerating the particulate solid in a turbulent high-velocity
 gas stream, to form by particle-particle attrition, an ammonium glyphosate
 powder having a mean particle size 5-20 μ m.
 DETAILED DESCRIPTION - Preparation of ammonium glyphosate (I) powder
 comprises:
 (a) mixing 1 weight part **solid**, particulate
glyphosate acid (II), 0.5-3 weight parts water and a base that
 supplies 0.8-1.25 moles equivalents ammonia per mole (I);
 (b) allowing the base to react with (II);
 (c) drying to recover a particulate solid (I);
 (d) accelerating the particulate solid in a turbulent high-velocity
 gas stream, to form by particle-particle attrition, an ammonium glyphosate
 powder having a mean particle size 5-20 μ m; and optionally
 (e) mixing 75-90 weight parts (I) powder with 10-25 weight parts one
 or more **surfactants** and 3-10 weight parts water to form an
 extrudable wet mix;
 (f) extruding the wet mix to form exudates strands that break to form
 moist coherent granules; and
 (g) drying the granules to produce a dry granular formulation.
 ACTIVITY - **Herbicide**.
 MECHANISM OF ACTION - None given.
 USE - For production of ammonium glyphosate **herbicides**.
 ADVANTAGE - The product has good storage properties without caking
 and good flowability.
 DESCRIPTION OF DRAWING(S) - The figure shows the process flow
 diagram.
 Dwg.1/1

L31 ANSWER 6 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1996-302072 [31] WPIX
 DNC C1996-095969
 TI **Solid herbicidal** compsn contg **glyphosate** and
 oxyfluorfen - prepd using soln of oxyfluorfen in **surfactant**
 -solvent mixture to prevent crystal formation..
 DC A97 C01 C03
 IN KUCHIKATA, M; SATO, T; TOUSSAINT, M E
 PA (MONS) MONSANTO EURO SA; (MONS) MONSANTO EURO SA NV
 CYC 19
 PI EP 719500 A1 19960703 (199631)* EN 9
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
 AU 9539028 A 19960711 (199635)
 EP 719500 B1 19980708 (199831) EN
 R: BE DE ES FR GB GR IT PT
 DE 69411573 E 19980813 (199838)
 ES 2120599 T3 19981101 (199851)
 AU 705685 B 19990527 (199932)
 US 6083875 A 20000704 (200036)
 ADT EP 719500 A1 EP 1994-870215 19941230; AU 9539028 A AU 1995-39028 19951124;
 EP 719500 B1 EP 1994-870215 19941230; DE 69411573 E DE 1994-611573
 19941230, EP 1994-870215 19941230; ES 2120599 T3 EP 1994-870215 19941230;
 AU 705685 B AU 1995-39028 19951124; US 6083875 A US 1995-576417 19951221
 FDT DE 69411573 E Based on EP 719500; ES 2120599 T3 Based on EP 719500; AU
 705685 B Previous Publ. AU 9539028
 PRAI EP 1994-870215 19941230
 AN 1996-302072 [31] WPIX
 AB EP 719500 A UPAB: 20010124
 A solid **herbicidal** compsn comprises: (a) oxyfluorfen
 (OFF)dissolved in at least (i) an alkoxyated acetylenic diol
surfactant, (ii) a polyoxyalkylene alkyl ether **surfactant**
 , (iii) an alkoxyated organosilicone-based **surfactant** (iv) a
 phosphate solvent of low water solubility and opt (v) solvents other than
 (iv), the wt ratio of total solvent to OFF being less than 3 to 1; (b)
 N-phosphonomethylglycine (NPMG). and opt an acid acceptor, or a
 water-soluble salt of NPMG; and opt (c) an inorganic carrier. Component
 (a) is separately claimed.
 USE - Use of the compsn is claimed for killing or controlling
 unwanted vegetation, by application to plants after dilution. NPMG
 (glyphosate) is an effective non-selective **herbicide**, which is
 combined with OFF (2-chloro- alpha , alpha , alpha -trifluoro-p-tolyl
 3-ethoxy-4-nitrophenyl ether, a known selective **herbicide**) to
 accelerate the appearance of visual symptoms and improve broadleaf weed
 control.
 ADVANTAGE - By use of the specific solvent system in the OFF premix
 (a), OFF crystal formation in the compsn is (almost) completely inhibited
 on storage. The compsn thus gives a clear or translucent mixt on dilution
 with water and a spray with a very fine OFF particle size. Problems such
 as clogging of spray equipment, reduced bioefficacy, non-homogeneous spray
 mixts and reduced OFF concn in the spray (see EP448538) are prevented.
 Dwg.0/0
 L31 ANSWER 7 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1992-284355 [34] WPIX
 DNC C1992-126452
 TI Dry, water soluble or dry, water dispersible agricultural compsn. -

comprises non-reacted N-phosphono methyl-glycine and an acid acceptor for controlling or killing weeds.

DC C01
 IN PRILL, E J; RICHARDSON, R O
 PA (MONS) MONSANTO CO
 CYC 36
 PI WO 9212637 A1 19920806 (199234)* EN 59
 RW: AT BE CH DE DK ES FR GB GR IT LU MC NL OA SE
 W: AU BB BG BR CA CS FI HU JP KP KR LK MG MN MW NO PL RO RU SD
 AU 9213595 A 19920827 (199247)
 EP 568635 A1 19931110 (199345) EN
 R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE
 BR 9205569 A 19940510 (199422)
 AU 649797 B 19940602 (199427)
 JP 06505256 W 19940616 (199428) 4
 EP 568635 B1 19970319 (199716) EN 15
 R: AT BE CH DE DK ES FR GB GR IT LI LU MC NL SE
 DE 69218411 E 19970424 (199722)
 ES 2101088 T3 19970701 (199736)
 ADT WO 9212637 A1 WO 1992-US274 19920115; AU 9213595 A AU 1992-13595 19920115,
 WO 1992-US274 19920115; EP 568635 A1 EP 1992-905285 19920115, WO
 1992-US274 19920115; BR 9205569 A BR 1992-5569 19920115, WO 1992-US274
 19920115; AU 649797 B AU 1992-13595 19920115; JP 06505256 W JP 1992-505681
 19920115, WO 1992-US274 19920115; EP 568635 B1 EP 1992-905285 19920115, WO
 1992-US274 19920115; DE 69218411 E DE 1992-618411 19920115, EP 1992-905285
 19920115, WO 1992-US274 19920115; ES 2101088 T3 EP 1992-905285 19920115
 FDT AU 9213595 A Based on WO 9212637; EP 568635 A1 Based on WO 9212637; BR
 9205569 A Based on WO 9212637; AU 649797 B Previous Publ. AU 9213595,
 Based on WO 9212637; JP 06505256 W Based on WO 9212637; EP 568635 B1 Based
 on WO 9212637; DE 69218411 E Based on EP 568635, Based on WO 9212637; ES
 2101088 T3 Based on EP 568635
 PRAI US 1991-645365 19910124; US 1991-804592 19911213
 AN 1992-284355 [34] WPIX
 AB WO 9212637 A UPAB: 19931113

A substantially dry, water soluble or dry, water dispersible agricultural compsn. comprises a **herbicidal** amount of non-reacted N-phosphonomethylglycine, and an acid acceptor.

Pref., the compsn. further comprises a solid or liquid **surfactant** in amount of 0.2-15.0 weight% and selected from nonionic **surfactants** include polyoxyethylene-polyoxypropylene block copolymer, anionic **surfactants** include sodium laurylsulphate, sodium alpha-olefin sulphonate. Cationic **surfactants** include ethoxylated fatty amines, amine oxides, such as lauryl dimethylamine oxide, and/or amphoteric **surfactants**. The compsn. also comprises a dispersing agent or a corrosion inhibitor, a thickener, a calcium sequestrant and/or a defoamer, an ammonium salt or other synergist, a quick-burn additive, a humectant, a dye or pigment, or a co-**herbicide**.

USE/ADVANTAGE - The compsn. can be used to kill or control weeds and is better than the current aqueous formulations. Advantages include higher active **glyphosate** content, compatibility with **solid** or water-insoluble liquid additives, compatibility with solid and liquid water insoluble co-**herbicides** as powder or water soluble granules, use of lower cost packaging and eliminating the necessity of mfg. a glyphosate salt prior to formulation of the final commercial product
 Dwg.0/0

ABEQ EP 568635 A UPAB: 19931220

Compsn. comprises a **herbicidal** amt. of non-reacted N-phosphonomethylglycine, and an acid acceptor.

Pref., the compsn. further comprises a solid or liq. **surfactant** in amt. of 0.2-15.0 wt.% and selected from nonionic **surfactants** including polyoxyethylene-polyoxypropylene block copolymer, anionic **surfactants** including sodium laurylsulphate and sodium alpha-olefin sulphonate, cationic **surfactants** including ethoxylated fatty amines, amine oxides, such as lauryl dimethylamine oxide, and/or amphoteric **surfactants**. The compsn. also comprises a dispersing agent or a corrosion inhibitor, a thickener, a calcium sequestrant and/or a defoamer, an ammonium salt or other synergist, a quick-burn additive, a humectant, a dye or pigment, or a co-**herbicide**.

USE/ADVANTAGE - The compsn. can be used to kill or control weeds and is better than the current aq. formulations. Advantages include higher active **glyphosate** content, compatibility with **solid** or water-insoluble liq. additives, compatibility with solid and liq. water insol. co-**herbicides** as powder or water soluble granules, use of lower cost packaging and eliminating the necessity of mfg. a glyphosate salt prior to formulation of the final commercial product.

ABEQ EP 568635 B UPAB: 19970417

A substantially dry, effervescent water soluble, agriculturally acceptable composition comprising a **herbicidally** effective amount of substantially non reacted N-phosphonomethylglycine, and a carbonate based acid acceptor in such an extend as to neutralise N-phosphonomethylglycine when the composition is poured into water.

Dwg.0/0

L31 ANSWER 8 OF 8 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1992-018299 [03] WPIX

CR 1990-337105 [45]

DNC C1992-007900

TI Concentrate compsn. used as **herbicide** - contains N-phosphono-methylglycine as suspension in (hydro)-organic solvent containing di (oxyalkylene)-amine type activator.

DC C01

IN DOOKHITH, M; LINARES, H

PA (RHON) RHONE POULENC AGROCHIMIE

CYC 1

PI FR 2661315 A 19911031 (199203)*

ADT FR 2661315 A FR 1990-5601 19900426

PRAI FR 1989-6075 19890502; FR 1990-5601 19900426

AN 1992-018299 [03] WPIX

CR 1990-337105 [45]

AB FR 2661315 A UPAB: 19940622

Concn formulations containing N-phosphonomethylglycine (glyphosate) and/or its derivs. as a suspension in an organic or hydro-organic solvent are claimed. The concentrate of glyphosate and/or one of its derivs., having a solubility in water greater than 5 g/l pref. greater than 9 g/l, is at least 100 g/l, part of this being insol. in the medium, pref. 120-250 (160-220) g/l. The proportion of glyphosate not dissolved is above 30% pref. above 75%.

Pref. glyphosate deriv(s). is a sodium, potassium, or ammonium salt or an organic salt, especially isopropyl ammonium or sulphonium, alone or mixed.

The insol. **solid** particles of **glyphosate** or its derivative

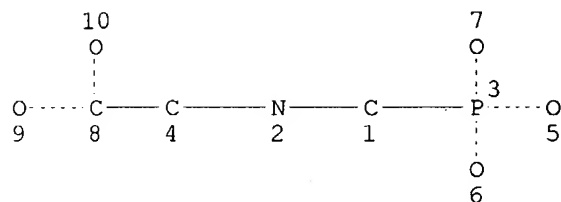
have a dia. less than 30 (1-20) microns. The **surfactant** present, having the properties of an activator is a cpd. of formula (I), where R = 8-22C alkyl or alkenyl chain, straight or branched, A = alkylene gp., pref. ethylene or propylene, n-n' = 2-40, pref. 16-30, pref. 20-25, R' = H or acyl, e.g. formyl, acetyl, propanoyl or benzoyl. An adjuvant may be present e.g. an ammonium salt (nitrate, phosphate, sulphamate, thiocyanate or sulphate) at 100-500 (200-350) g/l. Compsns. are diluted with water for spreading at 100-600 l/ha, the the active ingredient being applied at 0.125-1.5 kg/ha.

USE/ADVANTAGE - Glyphosate and its derivs. are **herbicides**. Compsns. are fine dispersions which do not settle out, and may contain all the solid and liquid additives normally used in such formulations, e.g. stabilisers, sequestrants, other **herbicides**, etc. @ (19pp)

Compsns. are fine dispersions which do not settle out, and may contain all the solid and liquid additives normally used in such formulations, e.g. stabilisers, sequestrants, other **herbicides**, etc.

=> d que

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON N-PHOSPHONOMETHYLGLYCINE/CN
 L6 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L7 783 SEA FILE=REGISTRY FAM FUL L6
 L8 783 SEA FILE=REGISTRY ABB=ON PLU=ON L5 OR L7
 L9 771 SEA FILE=REGISTRY ABB=ON PLU=ON (102127-69-5/CRN OR 102413-71-8/CRN OR 102642-99-9/CRN OR 102985-68-2/CRN OR 103789-74-8/CRN OR 103789-75-9/CRN OR 103789-76-0/CRN OR 103789-77-1/CRN OR 103789-78-2/CRN OR 103789-79-3/CRN OR 103789-80-6/CRN OR 103789-81-7/CRN OR 103789-82-8/CRN OR 103789-83-9/CRN OR 103789-84-0/CRN OR 103789-85-1/CRN OR 103789-86-2/CRN OR 103789-87-3/CRN OR 103789-88-4/CRN OR 103789-89-5/CRN OR 103789-90-8/CRN OR 103789-91-9/CRN OR 103789-92-0/CRN OR 103789-93-1/CRN OR 103789-94-2/CRN OR 103789-95-3/CRN OR 103789-96-4/CRN OR 103789-97-5/CRN OR 103789-98-6/CRN OR 103789-99-7/CRN OR 103790-00-7/CRN OR 103790-01-8/CRN OR 103790-02-9/CRN OR 103790-03-0/CRN OR 103790-04-1/CRN OR 103790-05-2/CRN OR 103790-06-3/CRN OR 103790-07-4/CRN OR 103814-36-4/CRN OR 103814-37-5/CRN OR 104432-53-3/CRN OR 104432-54-4/CRN OR 104432-55-5/CRN OR 105195-22-0/CRN OR 105505-03-1/CRN OR 105884-68-2/CRN OR 106656-88-6/CRN OR 1071-83-6/CRN OR 108408-96-4/CRN OR 108408-97-5/CRN OR 110000-04-9/CRN OR 110020-51-4/CRN OR 110020-53-6/CRN OR 111175-95-2/CRN OR 111175-98-5/CRN OR 111621-77-3/CRN OR 112526-23-5/CRN OR 112740-48-4/CRN OR 114370-14-8/CRN OR 115169-14-7/CRN OR 116122-38-4/CRN OR 116160-29-3/CRN OR 116235-54-2/CRN OR 116235-56-4/CRN OR 116235-58-6/CRN OR 116495-07-9/CRN OR 116495-08-0/CRN OR 116775-20-3/CRN OR 116775-21-4/CRN OR 119495-36-2/CRN OR 121407-09-8/CRN OR 121407-10-1/CRN OR 122792-41-0/CRN OR 122792-42-1/CRN OR 122792-43-2/CRN OR 122850-73-1/CRN OR 122881-06-5/CRN OR 122996-66-1/CRN OR 123119-54-0/CRN OR 124973-83-7/CRN OR 124973-84-8/CRN OR 124973-85-9/CRN OR 124973-87-1/CRN OR 124974-04-5/CRN OR 124974-06-7/CRN OR 124974-07-8/CRN OR 124974-08-9/CRN OR 125019-04-7/CRN OR 125019-05-8/CRN OR 125119-93-9/CRN OR 125204-64-0/CRN OR 125204-65-1/CRN OR 125204-66-2/CRN OR 125204-68-4/CRN OR 1
 L10 783 SEA FILE=REGISTRY ABB=ON PLU=ON L8 OR L9

L15 43666 SEA FILE=HCAPLUS ABB=ON PLU=ON HERBICIDES+PFT/CT
 L20 35 SEA FILE=HCAPLUS ABB=ON PLU=ON L10(L) SOLID
 L21 14 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND L15

⇒ d l21 ibib ab hitind hitstr 1-14)

L21 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2004:430601 HCAPLUS
 DOCUMENT NUMBER: 140:401765
 TITLE: Solid herbicidal glyphosate formulation
 INVENTOR(S): Vigil, Jorge Gustavo; Ruiz, Martha Maria Del Carmen;
 Anacabe, Dante Omar
 PATENT ASSIGNEE(S): Argent.
 SOURCE: U.S. Pat. Appl. Publ., 5 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004102323	A1	20040527	US 2003-714870	20031118
PRIORITY APPLN. INFO.:			AR 2002-104441	A 20021119

AB A solid herbicidal formulation of glyphosate is described, in powder, granule, or flake form, soluble or dispersible in water, containing glyphosate in the form of hydrosol. salt and also including 5-30% weight % of one or more surfactants, soluble in water, compatible with glyphosate and which are solid at ambient temperature, i.e. at approx. 25°.

IC ICM A01N057-18
 ICS A01N025-12

NCL 504206000; 504367000

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**
 Pesticide formulations
 (solid herbicidal glyphosate formulation)

IT 1071-83-6, Glyphosate 34494-03-6, Glyphosate monosodium salt 39600-42-5, Glyphosate monopotassium salt 40465-66-5, Glyphosate monoammonium salt
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
 (solid herbicidal glyphosate formulation)

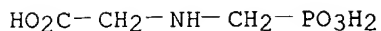
IT 1071-83-6, Glyphosate 34494-03-6, Glyphosate monosodium salt 39600-42-5, Glyphosate monopotassium salt 40465-66-5, Glyphosate monoammonium salt
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
 (solid herbicidal glyphosate formulation)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

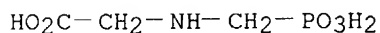
HO₂C-CH₂-NH-CH₂-PO₃H₂

RN 34494-03-6 HCAPLUS
 CN Glycine, N-(phosphonomethyl)-, monosodium salt (9CI) (CA INDEX NAME)



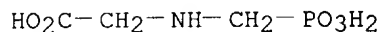
● Na

RN 39600-42-5 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, monopotassium salt (9CI) (CA INDEX NAME)



● K

RN 40465-66-5 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, monoammonium salt (9CI) (CA INDEX NAME)

● NH₃

L21 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:59567 HCAPLUS
DOCUMENT NUMBER: 140:106970
TITLE: Solid adjuvants for agrochemicals comprising
surfactants and fillers
INVENTOR(S): Schnabel, Gerhard; Maier, Thomas; Thuaud, Caroline;
Krause, Hans-peter; Bickers, Udo
PATENT ASSIGNEE(S): Germany
SOURCE: U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004013678	A1	20040122	US 2003-619065	20030711
DE 10231615	A1	20040205	DE 2002-10231615	20020712
WO 2004006671	A1	20040122	WO 2003-EP6933	20030630

W: AE, AG, AL, AM, AU, AZ, BA, BB, BR, BY, BZ, CA, CN, CO, CR, CU,
DM, DZ, EC, GD, GE, HR, ID, IL, IN, IS, JP, KG, KP, KR, KZ, LC,
LK, LR, LT, LV, MA, MD, MG, MK, MN, MX, NI, NO, NZ, OM, PG, PH,
PL, RU, SC, SG, SY, TJ, TM, TN, TT, UA, US, UZ, VC, VN, YU, ZA,
AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2002-10231615 A 20020712

OTHER SOURCE(S): MARPAT 140:106970

AB The present invention relates to a solid adjuvant comprising (a) one or more surfactants of the formula Ar-O-(CHR1-CHR2-O-)y-R3 (Ar = aryl, substituted by at least two (C1-C30)alkyls; R1 = H or (C1-C6)alkyl; R2 = H or (C1-C6)alkyl; R3 = H, (un)substituted (C1-C30) hydrocarbon, sulfonate, phosphonate, or acyl; y = 1-100), and (b) one or more fillers. The adjuvant is particularly suitable in the field of crop protection.

IC ICM A61K039-00

NCL 424184100

CC 5-6 (Agrochemical Bioregulators)

IT **Herbicides**

(solid adjuvants comprising surfactants and fatty acids, for)

IT 13684-56-5, Desmedipham 13684-63-4, Phenmedipham 26225-79-6,

Ethofumesate **40465-66-5** 41394-05-2, Metamitron 51276-47-2,

Glufosinate 71283-80-2 83164-33-4, Diflufenican

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(solid adjuvants comprising surfactants and fatty acids, for)

IT **40465-66-5**

RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)

(solid adjuvants comprising surfactants and fatty acids, for)

RN 40465-66-5 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, monoammonium salt (9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

● NH₃

L21 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:1004976 HCAPLUS

DOCUMENT NUMBER: 140:5625

TITLE: Stable nonaqueous suspensions of solid particles in polyalkylene glycols

INVENTOR(S): Harris, William Franklin

PATENT ASSIGNEE(S): Benchmark Research and Technology, USA

SOURCE: U.S. Pat. Appl. Publ., 13 pp., Cont.-in-part of U.S. Ser. No. 771,226.

/ CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002193256	A1	20021219	US 2001-905358	20010713

US 6743756 B2 20040601
 US 2002019318 A1 20020214 US 2001-771226 20010126
 WO 2003006135 A2 20030123 WO 2002-US22114 20020711
 WO 2003006135 A3 20030410
 WO 2003006135 C2 20040429

W: AE, AG, AL, AM, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CN, CO, CR,
 CU, CZ, DM, DZ, EC, EE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
 JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LV, MA, MD, MG, MK, MN,
 MW, MX, MZ, NO, NZ, OM, PH, PL, RO, RU, SD, SG, SI, SK, SL, TJ,
 TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT,
 LU, MC, NL, PT, SE, SK, TR

EP 1406712 A2 20040414 EP 2002-744865 20020711

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

US 2003220203 A1 20031127 US 2003-441500 20030520

PRIORITY APPLN. INFO.:

US 2001-771226 A2 20010126

US 2000-198922P P 20000421

US 2001-905358 A 20010713

WO 2002-US22114 W 20020711

AB A nonaq. suspension comprises (a) solid particles, (b) a polyalkylene glycol, and (c) a suspension stabilizer comprising hydrogenated castor oil or wax. The suspensions of particles in non-aqueous solvents are extremely stable over long periods of time with min. separation of the solvent and no hard packing of the dispersed particles. The suspensions enable a user to rapidly add the suspension to water and mix at low speeds without generating fugitive dust in the process. The suspensions are environmentally safe, biodegradable and may be used in environmentally sensitive applications, such as drilling fluids for offshore areas. A composition comprising the nonaq. suspension can be used as an environmental chemical, an agricultural chemical, a paper production chemical, a textile chemical, an ingredient in a construction or building product (such as paint, cement, textured finishing compound), a cosmetic ingredient, a hair spray component, a gelatin substitute, a ceramic material, a cleaning composition, a polish, an ink, a fire extinguishing chemical, a metalworking chemical, an adhesive chemical, an explosive chemical, a flocculant, a water purification compound, a binder chemical for sand, ores or coal, or an oil field chemical

IC ICM E21B001-00

NCL 507200000

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 5

IT Agrochemicals

Cement

Ceramics

Flocculants

Fungicides

Herbicides

Pesticides

(particles; nonaq. suspensions of solid particles in polyalkylene glycols)

IT 75-60-5, Cacodylic acid 75-99-0, Dalapon 127-20-8,
 2,2-Dichloropropionic acid, sodium salt 1071-83-6, Glyphosate
 1918-00-9, Dicamba 7773-06-0, Ammonium sulfamate 72178-02-0, Fomesafen
 RL: TEM (Technical or engineered material use); USES (Uses)

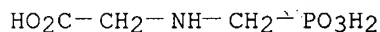
(herbicide, particles; nonaq. suspensions of **solid** particles in polyalkylene glycols)

IT 1071-83-6, Glyphosate

RL: TEM (Technical or engineered material use); USES (Uses)
(herbicide, particles; nonaq. suspensions of **solid** particles in polyalkylene glycols)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:797994 HCAPLUS

DOCUMENT NUMBER: 135:328381

TITLE: Solid herbicidal composition

INVENTOR(S): Maeda, Masaru; Shimizu, Manabu

PATENT ASSIGNEE(S): Ishihara Sangyo Kaisha, Ltd., Japan

SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001080644	A1	20011101	WO 2001-JP3578	20010425
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
JP 2002012509	A2	20020115	JP 2001-111821	20010410
AU 2001052576	A5	20011107	AU 2001-52576	20010425
EP 1277405	A1	20030122	EP 2001-925914	20010425
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2001010399	A	20030408	BR 2001-10399	20010425
US 2003100449	A1	20030529	US 2002-258449	20021024
PRIORITY APPLN. INFO.:				
			JP 2000-125475	A 20000426
			WO 2001-JP3578	W 20010425
AB A solid herbicidal composition is presented comprising (1) 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-pyridyl-sulfonyl)urea or a salt thereof, (2) at least one member selected from the group consisting of N-(phosphono-methyl)glycine, 4-[hydroxy(methyl)phosphinyl]homo-alanine, 4-[hydroxy(methyl)phosphinyl]homo-alanylalanylalanine, and salts thereof, (3) a surfactant, and (4) a stabilizer.				
IC	ICM A01N047-36			
	ICS A01N057-20; A01N025-08; A01N025-12			
CC	5-3 (Agrochemical Bioregulators)			

IT **Herbicides**
(in solid herbicidal composition)
IT **1071-83-6**, N-(Phosphono-methyl)glycine **1071-83-6D**,
N-(Phosphono-methyl)glycine, salts 35597-43-4 35597-43-4D, salts
35597-44-5 35597-44-5D, salts 104040-78-0 104040-78-0D, salts
RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL
(Biological study); USES (Uses)
(in solid herbicidal composition)
IT **1071-83-6**, N-(Phosphono-methyl)glycine **1071-83-6D**,
N-(Phosphono-methyl)glycine, salts
RL: AGR (Agricultural use); BUU (Biological use, unclassified); BIOL
(Biological study); USES (Uses)
(in solid herbicidal composition)
RN 1071-83-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

RN 1071-83-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:725402 HCAPLUS

DOCUMENT NUMBER: 133:292309

TITLE: Preparation of solid water-soluble compositions
containing glyphosate salt and an inorganic filler
supported by a film-forming polymer

INVENTOR(S): Landham, Rowena Roshanthi; Oza, Mrinalini Sachin

PATENT ASSIGNEE(S): Zeneca Limited, UK

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000059301	A1	20001012	WO 2000-GB829	20000308
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

EP 1168915 A1 20020109 EP 2000-907838 20000308
 EP 1168915 B1 20040512

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI

JP 2003502444 T2 20030121 JP 2000-608878 20000308

PRIORITY APPLN. INFO.:

GB 1999-7668 A 19990401

WO 2000-GB829 W 20000308

AB A solid, water-soluble or water-dispersible composition comprising a non film-forming component (A), which is a salt of glyphosate, bipyridylum salt, glufosinate, fomesafen and/or ammonium sulfate (a filler), which is supported by a film-forming polymer (B), which is a partially or fully charged homopolymer or a partially charged block copolymer or a homopolymer or block copolymer capable of ring-opening to form a partially charged homopolymer or block copolymer is prepared by mixing A and B in an aqueous medium and drying it. The preferred film-forming polymer is alkyl vinyl ether maleic anhydride block co-polymer or a hydrolyzed form thereof.

ICM A01N025-10

ICS A01N057-20; A01N043-90; A01N043-40; A01N041-10; A01N025-34

CC 5-3 (Agrochemical Bioregulators)

Section cross-reference(s): 36

IT **Herbicides**

Pesticide formulations

(solid water-soluble composition containing glyphosate salt)

IT 85-00-7, Diquat dibromide **1071-83-6D**, Glyphosate, salt

40465-66-5, Ammonium glyphosate 51276-47-2, Glufosinate

70901-12-1, Glycine, N-(phosphonomethyl)-, potassium salt

72178-02-0, Fomesafen **81591-81-3**, Glyphosate-Trimesium

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(in **solid** water-soluble agrochem. composition supported by a film-forming polymer)

IT **1071-83-6D**, Glyphosate, salt **40465-66-5**, Ammonium

glyphosate **70901-12-1**, Glycine, N-(phosphonomethyl)-, potassium

salt **81591-81-3**, Glyphosate-Trimesium

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(in **solid** water-soluble agrochem. composition supported by a film-forming polymer)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

RN 40465-66-5 HCAPLUS

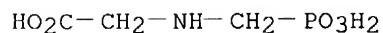
CN Glycine, N-(phosphonomethyl)-, monoammonium salt (9CI) (CA INDEX NAME)

$\text{HO}_2\text{C}-\text{CH}_2-\text{NH}-\text{CH}_2-\text{PO}_3\text{H}_2$

● NH_3

RN 70901-12-1 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, potassium salt (9CI) (CA INDEX NAME)

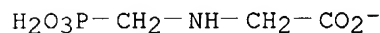


●x K

RN 81591-81-3 HCAPLUS
 CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium (9CI) (CA
 INDEX NAME)

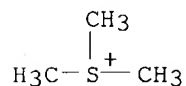
CM 1

CRN 81591-80-2
 CMF C3 H7 N O5 P



CM 2

CRN 676-84-6
 CMF C3 H9 S



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2000:107263 HCAPLUS
 DOCUMENT NUMBER: 132:118778
 TITLE: Manufacture of soluble glyphosate solid herbicide
 INVENTOR(S): Zhang, Hongxiu
 PATENT ASSIGNEE(S): Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1181881	A	19980520	CN 1997-107058	19970724
CN 1061813	B	20010214		

PRIORITY APPLN. INFO.: CN 1997-107058 19970724
 AB The solid herbicide is comprised of glyphosate 30-60%, surfactant SDP
 5-10%, synergists (NH₄)₂SO₄ 8-20% and urea 10-30%, and filler to 100%,
 preferably glyphosate 20%, SDP 9%, (NH₄)₂SO₄ 15%, urea 25%, and Na₂SO₄ to

100%.

IC ICM A01N059-10
ICS A01N025-18

CC 5-3 (Agrochemical Bioregulators)

IT Agrochemical formulations
Herbicides
(manufacture of soluble glyphosate solid herbicide)

IT 1071-83-6, Glyphosate
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(manufacture of soluble glyphosate **solid** herbicide)

IT 1071-83-6, Glyphosate
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(manufacture of soluble glyphosate **solid** herbicide)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

L21 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:753003 HCAPLUS

DOCUMENT NUMBER: 131:333424

TITLE: Solid water-soluble or water-dispersible herbicide compositions

INVENTOR(S): Landham, Rowena Roshanthi; Oza, Mrinalini Sachin

PATENT ASSIGNEE(S): Zeneca Limited, UK

SOURCE: PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9959407	A1	19991125	WO 1999-GB1559	19990517
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9940506	A1	19991206	AU 1999-40506	19990517
EP 1083791	A1	20010321	EP 1999-923743	19990517
EP 1083791	B1	20020724		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002515405	T2	20020528	JP 2000-549090	19990517
AT 220854	E	20020815	AT 1999-923743	19990517
PT 1083791	T	20021129	PT 1999-923743	19990517

ES 2177277 T3 20021201 ES 1999-923743 19990517
 US 6528569 B1 20030304 US 2000-674386 20001030
 PRIORITY APPLN. INFO.: GB 1998-10861 A 19980526
 WO 1999-GB1559 W 19990517

AB A composition for producing a solid, water-soluble or water-dispersible herbicidal

formulation comprises a non film-forming material, for example a water-soluble electrolyte herbicide, such as a glyphosate salt, supported by a film-forming polymer such as polyvinylpyrrolidone. The process comprises: preparing a film-forming aqueous medium containing (a) the film-forming polymer; (b) the water-soluble material which is non film-forming; (c) a water-miscible solvent in which the film-forming polymer is soluble and optionally (d) a solid filler, and thereafter drying the film-forming aqueous medium to form the solid composition

IC ICM A01N025-34

ICS A01N043-40; A01N057-20

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**

Pesticide formulations

(solid water-soluble or water-dispersible herbicide compns. containing)

IT 1071-83-6D, Glyphosate, salts 38641-94-0, Roundup
 51276-47-2D, Glufosinate, salts 70901-12-1, Glycine,
 N-(phosphonomethyl). potassium salt 72178-02-0, Fomesafen
 81591-81-3, Glyphosate trimesium 114370-14-8, Glycine,
 N-(phosphonomethyl). ammonium salt

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(solid water-soluble or water-dispersible herbicide compns.)

IT 1071-83-6D, Glyphosate, salts 38641-94-0, Roundup
 70901-12-1, Glycine, N-(phosphonomethyl). potassium salt
 81591-81-3, Glyphosate trimesium 114370-14-8, Glycine,
 N-(phosphonomethyl). ammonium salt

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(solid water-soluble or water-dispersible herbicide compns.)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

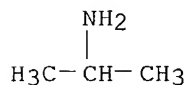
CRN 1071-83-6

CMF C3 H8 N O5 P

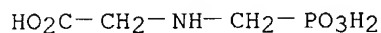
HO₂C-CH₂-NH-CH₂-PO₃H₂

CM 2

CRN 75-31-0
CMF C3 H9 N



RN 70901-12-1 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, potassium salt (9CI) (CA INDEX NAME)

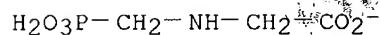


●x K

RN 81591-81-3 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium (9CI) (CA INDEX NAME)

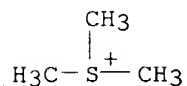
CM 1

CRN 81591-80-2
CMF C3 H7 N O5 P

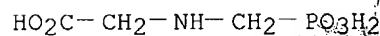


CM 2

CRN 676-84-6
CMF C3 H9 S



RN 114370-14-8 HCAPLUS
CN Glycine, N-(phosphonomethyl)-, ammonium salt (9CI) (CA INDEX NAME)



●x NH₃

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:343312 HCAPLUS

DOCUMENT NUMBER: 130:334159

TITLE: Non-aqueous suspension concentrates of highly water-soluble solid agrochemicals

INVENTOR(S): Pallas, Norman Robert; Hazen, James L.; Riedemann, Robert Jene; Ruch, Thomas E.

PATENT ASSIGNEE(S): Rhodia Inc., USA

SOURCE: U.S., 7 pp., Cont.-in-part of U.S. 5,707,551.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5906962	A	19990525	US 1997-926920	19970910
US 5707551	A	19980113	US 1994-362057	19941222
PT 891135	T	20020930	PT 1995-944708	19960320
PRIORITY APPLN. INFO.:			US 1994-362057 A2	19941222
			CA 1996-2249576 A	19960320
			WO 1995-IB1172	19960320

AB Stable, concentrated nonaq. suspensions of water-soluble solids are prepared by using

a water-soluble agrochem. dispersed in water-miscible organic liquid carriers, preferably lower alkanediols in conjunction with a specific three-component surfactant system, i.e., a system comprising a nonionic polymeric viscosity-modifier surfactant; an anionic surfactant; and a nonionic surfactant having a bulky hydrophobic substituent group.

IC ICM A01N025-04

ICS A01N037-10; A01N037-18; B01J013-00

NCL 504116000

CC 5-4 (Agrochemical Bioregulators)

IT Antibacterial agents

Fungicides

Herbicides

Pesticides

(nonaq. suspension concs. of highly water-soluble solid agrochems.)

IT 57-13-6, Urea, biological studies 60-51-5, Dimethoate 75-60-5, Cacodylic acid 127-20-8, Dalapon sodium 1071-83-6, Glyphosate 1918-00-9, Dicamba 2275-23-2, Vamidothion 6484-52-2, Ammonium nitrate, biological studies 6980-18-3, Kasugamycin 7558-79-4, Disodium hydrogen phosphate 7722-76-1, Ammonium phosphate 7757-79-1, Potassium nitrate, biological studies 7758-98-7, Copper(II) sulfate, biological studies, 7773-06-0, Ammonium sulfamate 7778-77-0 10043-35-3, Boric acid, biological studies 16752-77-5, Methomyl 30560-19-1, Acephate 34681-10-2, Butocarboxim 39148-24-8, Fosetyl-Al 52207-48-4, Dimehypo 71626-11-4, Benalaxyl 72178-02-0 108173-90-6, Guazatine

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(nonaq. suspension concs. of highly water-soluble solid agrochems.)

IT 1071-83-6, Glyphosate

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(nonaq. suspension concs. of highly water-soluble solid

agrochems.)
RN 1071-83-6 HCAPLUS
CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:113411 HCAPLUS

DOCUMENT NUMBER: 126:119351

TITLE: Manufacture of ammonium glyphosate via a gas-solid
reaction system

INVENTOR(S): Day, Thomas McCabe; Gillespie, Jane Laura; Kramer,
Richard Melvyn

PATENT ASSIGNEE(S): Passley, Paul Leonard, USA

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640697	A1	19961219	WO 1996-US3082	19960305
W:	AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KR, KZ, LL , LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SL , SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
US 5633397	A	19970527	US 1995-485316	19950607
CA 2221299	AA	19961219	CA 1996-2221299	19960305
CA 2221299	C	20010605		
AU 9654195	A1	19961230	AU 1996-54195	19960305
AU 704518	B2	19990422		
EP 832086	A1	19980401	EP 1996-911255	19960305
EP 832086	B1	20001011		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI			
CN 1192742	A	19980909	CN 1996-196133	19960305
CN 1068008	B	20010704		
JP 10511688	T2	19981110	JP 1996-500437	19960305
BR 9608561	A	19990706	BR 1996-8561	19960305
AT 196908	E	20001015	AT 1996-911255	19960305
ES 2152019	T3	20010116	ES 1996-911255	19960305
JP 3126032	B2	20010122	JP 1997-500437	19960305
RU 2164518	C2	20010327	RU 1998-100186	19960305
IL 118576	A1	20000928	IL 1996-118576	19960605
ZA 9604774	A	19970108	ZA 1996-4774	19960606
PRIORITY APPLN. INFO.:			US 1995-485316 A	19950607
			WO 1996-US3082 W	19960305

AB Solid N-phosphonomethylglycine (glyphosate acid) (I) in wet cake form is charged to a suitable mixer/reactor equipped with a jacket cooled with H₂O or other suitable heat transfer facilitating means and a stoichiometric equivalent of anhydrous NH₃(g) is fed to the mixer for direct reaction with I

as it is agitated within the mixer. The moisture content of the glyphosate wet cake, the design of the mixer including a preferred close tolerance relation between the inner walls of the reactor and its mixing impellers together with the relative location of the NH₃(g) inlet in the mixer/reactor and maintenance of a reaction temperature of ≤60° are all important process variables. The ammonium glyphosate thereby produced is a highly sorptive, H₂O-soluble powder suitable for end use as a plant growth regulator or as a herbicide without further processing. Due to the highly sorptive character of the reaction product, it is particularly well-suited for further formulation to absorb/adsorb a high level of adjuvants, e.g., wetting agents, anti-foaming agents and, in particular, surfactants.

IC ICM C07F009-38

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 5

IT **Herbicides**

(manufacture of herbicidal ammonium glyphosate using a gas-solid reaction system for neutralization of glyphosate acid with ammonia gas)

IT **40465-66-5P, Ammonium glyphosate**

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of herbicidal ammonium glyphosate using a gas-solid reaction system for neutralization of glyphosate acid with ammonia gas)

IT **1071-83-6, N-Phosphonomethylglycine**

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of herbicidal ammonium glyphosate using a gas-solid reaction system for neutralization of glyphosate acid with ammonia gas)

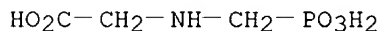
IT **40465-66-5P, Ammonium glyphosate**

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of herbicidal ammonium glyphosate using a gas-solid reaction system for neutralization of glyphosate acid with ammonia gas)

RN 40465-66-5 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, monoammonium salt (9CI) (CA INDEX NAME)



● NH₃

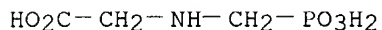
IT **1071-83-6, N-Phosphonomethylglycine**

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of herbicidal ammonium glyphosate using a gas-solid reaction system for neutralization of glyphosate acid with ammonia gas)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1997:113408 HCAPLUS
 DOCUMENT NUMBER: 126:119350
 TITLE: Manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system
 INVENTOR(S): Passley, Paul Leonard; Day, Thomas McCabe; Gillespie, Jane Laura; Kramer, Richard Melvyn; Lindemann, Ralph Elmer, Jr.
 PATENT ASSIGNEE(S): Passley, Paul Leonard, USA
 SOURCE: PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640696	A1	19961219	WO 1996-US3081	19960305
W:	AM, AU, AZ, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, IS, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
US 5614468	A	19970325	US 1995-472152	19950607
CA 2221298	AA	19961219	CA 1996-2221298	19960305
CA 2221298	C	20010605		
AU 9656620	A1	19961230	AU 1996-56620	19960305
AU 694877	B2	19980730		
EP 845000	A1	19980603	EP 1996-913769	19960305
EP 845000	B1	20010516		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI			
JP 10507467	T2	19980721	JP 1996-500436	19960305
JP 2963543	B2	19991018		
CN 1192743	A	19980909	CN 1996-196134	19960305
CN 1068601	B	20010718		
BR 9608562	A	19990706	BR 1996-8562	19960305
RU 2164519	C2	20010327	RU 1998-100223	19960305
ES 2157441	T3	20010816	ES 1996-913769	19960305
PT 845000	T	20010928	PT 1996-913769	19960305
IN 181799	A	19980926	IN 1996-MA389	19960312
IN 181847	A	19981003	IN 1996-MA390	19960312
IL 118577	A1	20010520	IL 1996-118577	19960605
ZA 9604775	A	19970108	ZA 1996-4775	19960606
US 5716903	A	19980210	US 1997-778890	19970103
GR 3036355	T3	20011130	GR 2001-401207	20010808
PRIORITY APPLN. INFO.			US 1995-472152 A	19950607
			WO 1996-US3081 W	19960305
AB	Solid N-phosphonomethylglycine (glyphosate acid) (I) is charged to a closed system and partially pre-dried by continuously recirculating it through a hot air grinding/drying system. A cooled solution of NH ₄ OH is then metered into and reacted with the partially dried I as it is being			

recirculated in a manner such that the moisture content of the reaction mass so formed is continuously decreased throughout the reaction. Following completion of the NH₄OH addition, a powdered reaction product having

a

moisture content of .apprx.2% is formed. At this stage, the ammonium glyphosate product is suitable for end use and it can be readily dissolved in H₂O and immediately used as a herbicide or plant growth regulator. Due to its highly sorptive character this product is capable to be further formulated into a product highly loaded with adjuvants and particularly surfactants.

IC ICM C07F009-38

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 5

IT **Herbicides**

(manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system for neutralization of glyphosate acid)

IT **40465-66-5P, Ammonium glyphosate**

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system for neutralization of glyphosate acid)

IT **1071-83-6, N-Phosphonomethylglycine** 1336-21-6, Ammonium hydroxide

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system for neutralization of glyphosate acid)

IT **40465-66-5P, Ammonium glyphosate**

RL: IMF (Industrial manufacture); PREP (Preparation)

(manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system for neutralization of glyphosate acid)

RN 40465-66-5 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, monoammonium salt (9CI) (CA INDEX NAME)

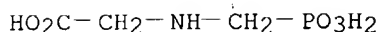
● NH₃IT **1071-83-6, N-Phosphonomethylglycine**

RL: RCT (Reactant); RACT (Reactant or reagent)

(manufacture of herbicidal ammonium glyphosate using aqueous ammonium hydroxide in a liquid-solid reaction system for neutralization of glyphosate acid)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:438066 HCAPLUS

DOCUMENT NUMBER: 125:107779

TITLE: Solid glyphosate plus oxyfluorfen herbicide formulations

INVENTOR(S): Sato, Tatsuo; Kuchikata, Masuo; Toussaint, Marc Emile

PATENT ASSIGNEE(S): Monsanto Europe SA, Belg.

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 719500	A1	19960703	EP 1994-870215	19941230
EP 719500	B1	19980708		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
ES 2120599	T3	19981101	ES 1994-870215	19941230
AU 9539028	A1	19960711	AU 1995-39028	19951124
AU 705685	B2	19990527		
US 6083875	A	20000704	US 1995-576417	19951221

PRIORITY APPLN. INFO.: EP 1994-870215 A 19941230

AB The invention relates to a solid herbicidal composition comprising oxyfluorfen dissolved in at least an alkoxyated acetylenic diol surfactant and a polyoxyalkylene alkyl ether surfactant or an alkoxyated organosilicon surfactant and a phosphate solvent of low water solubility, the ratio by weight of

phosphate solvent to oxyfluorfen being lower than 3 to 1; and a water-soluble glyphosate salt, and optionally an inorg. carrier. The preferred alkoxyated acetylenic diol surfactant is Surfynol 465.

IC ICM A01N057-20

ICS A01N033-22

ICI A01N057-20, A01N057-14, A01N033-22, A01N025-30, A01N025-14, A01N025-08; A01N033-22, A01N057-14, A01N025-30, A01N025-02

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**

(solid glyphosate plus oxyfluorfen herbicide formulations)

IT 42874-03-3D, Oxyfluorfen, mixts. with glyphosate salts **105884-68-2**, Oxyfluorfen-glyphosate mixture **178823-77-3**

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(solid glyphosate plus oxyfluorfen herbicide formulations)

IT **105884-68-2**, Oxyfluorfen-glyphosate mixture **178823-77-3**

RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)

(solid glyphosate plus oxyfluorfen herbicide formulations)

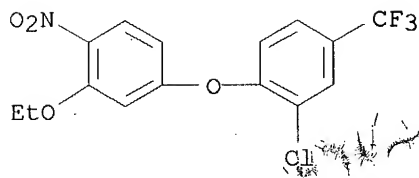
RN 105884-68-2 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, mixt. with 2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene (9CI) (CA INDEX NAME)

CM 1

CRN 42874-03-3

CMF C15 H11 Cl F3 N O4



CM 2

CRN 1071-83-6

CMF C3 H8 N O5 P

HO₂C-CH₂-NH-CH₂-PO₃H₂

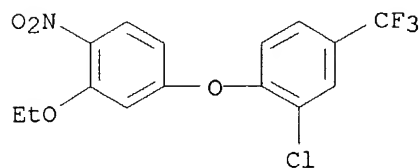
RN 178823-77-3 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, monoammonium salt, mixt. with
 2-chloro-1-(3-ethoxy-4-nitrophenoxy)-4-(trifluoromethyl)benzene (9CI) (CA
 INDEX NAME)

CM 1

CRN 42874-03-3

CMF C15 H11 Cl F3 N O4



CM 2

CRN 40465-66-5

CMF C3 H8 N O5 P . H3 N

HO₂C-CH₂-NH-CH₂-PO₃H₂● NH₃

L21 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1995:350899 HCAPLUS

DOCUMENT NUMBER: 122:125971
 TITLE: Solid agricultural adjuvants for pesticides.
 INVENTOR(S): Chasin, David G.; Davis, Ronald I.
 PATENT ASSIGNEE(S): USA
 SOURCE: Can. Pat. Appl., 20 pp.
 CODEN: CPXXEB
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2093377	AA	19941006	CA 1993-2093377	19930405

PRIORITY APPLN. INFO.: CA 1993-2093377 19930405

AB Solid, free-flowing adjuvants for use with agricultural chems., such as pesticides, are formed by phys. combining urea with at ≥ 1 surfactant selected from ethoxylated aliphatic alcs. or acids having at least 10 mol of ethylene oxide per mol of acid or alc. and 8-24 carbon atoms in the acid or alc. chain; block or random copolymers of ethylene oxide and propylene oxide; a block or random copolymers of ethylene oxide and propylene oxide based on aliphatic alcs. having 4-18 carbon atoms. These adducts may also include other fertilizers, such as diammonium phosphate; acidifying agents, such as anionic phosphate esters of the formula ROP(O)(OH)_2 , wherein R is alkyl, alkyaryl, alkoxyated alkyl, or alkoxyated alkylaryl; and/or sticking agents, such as fatty acids of alkoxyated novolac resins. The adducts are formed by mixing and heating the components to a uniform liquid melt and then cooling the adduct into a solid, free-flowing powder. The adjuvants may be built-in or tank mixed or dry blended with pesticide formulations. They function as activator adjuvants, compatibilizers, buffers, dispersants, wetting and/or sticking agents. Thus, an adjuvant was prepared by heating a mixture of polyoxyethylene tridecyl alc. 50, urea 48 and water 2 weight% at 120°. This adjuvant enhanced the herbicidal activity of sulfosate against common weeds.

IC ICM A01N025-30
 ICS A01N025-24; A01N025-14; C05G003-00

CC 5-3 (Agrochemical Bioregulators)
 Section cross-reference(s): 19

IT Agrochemical formulations
 Herbicides
 Pesticides
 (solid agricultural adjuvants for pesticides containing fertilizers and surfactants)

IT 81591-81-3, Sulfosate
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
 (solid agricultural adjuvants for herbicides containing fertilizers and surfactants)

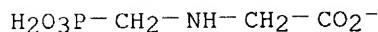
IT 81591-81-3, Sulfosate
 RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
 (solid agricultural adjuvants for herbicides containing fertilizers and surfactants)

RN 81591-81-3 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium (9CI) (CA INDEX NAME)

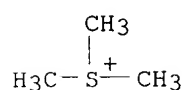
CM 1

CRN 81591-80-2
CMF C3 H7 N O5 P



CM 2

CRN 676-84-6
CMF C3 H9 S



L21 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1990:567391 HCAPLUS
DOCUMENT NUMBER: 113:167391
TITLE: Solid formulations of N-phosphonomethyl-N-carboxymethyl herbicides
INVENTOR(S): Chan, Jimmy H.; Djafar, Roger R.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 50,445, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4931080	A	19900605	US 1988-145152	19880119
ZA 8603985	A	19870225	ZA 1986-3985	19860528
DD 259127	A5	19880817	DD 1986-290675	19860528
SK 278212	B6	19960403	SK 1986-3901	19860528
US 5580841	A	19961203	US 1994-314579	19940928
PRIORITY APPLN. INFO.:			US 1985-738708	19850529
			US 1985-762466	19850805
			US 1987-50455	19870518
			US 1988-145152	19880119
			US 1990-531439	19900513
			US 1992-883224	19920507

OTHER SOURCE(S): MARPAT 113:167391

AB N-Phosphonomethyl-N-carboxymethyl compds. are mixed with a molten nonionic surfactant and solvent, followed by solvent-evaporation and cooling, to give a solid formulation. A mixture of 12.5 g molten Tetronic 908 (ethylene oxide-propylene oxide block copolymer) and 42.5 g 58% aqueous trimethylsulfonium N-phosphonomethylglycine solution was heated at 95° under vacuum, to give, after water evaporation, a stable solid formulation. The composition (2.4 g) dissolved in 400 mL water controlled Johnson grass

(Sorghum halepense) and other weeds, when applied postemergence at 0.5 lb/acre.

IC ICM A01N025-00

NCL 071087000

CC 5-3 (Agrochemical Bioregulators)

IT **Herbicides**

(phosphonomethylcarboxymethyl compds., solid formulations of)

IT 1071-83-6 2439-99-8, N,N-Bis(Phosphonomethyl)glycine

38641-94-0 81591-81-3

RL: PROC (Process)

(herbicide formulation of, **solid**)

IT 1071-83-6 38641-94-0 81591-81-3

RL: PROC (Process)

(herbicide formulation of, **solid**)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

HO₂C-CH₂-NH-CH₂-PO₃H₂

RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 1071-83-6

CMF C3 H8 N O5 P

HO₂C-CH₂-NH-CH₂-PO₃H₂

CM 2

CRN 75-31-0

CMF C3 H9 N

NH₂
|
H₃C-CH-CH₃

RN 81591-81-3 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, ion(1-), trimethylsulfonium (9CI) (CA INDEX NAME)

CM 1

CRN 81591-80-2

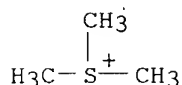
CMF C3 H7 N O5 P

H₂O₃P-CH₂-NH-CH₂-CO₂⁻

CM 2

CRN 676-84-6

CMF C3 H9 S



L21 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1988:217798 HCAPLUS

DOCUMENT NUMBER: 108:217798

TITLE: Solid phytoactive compositions comprising a

N-phosphonomethyl-N-carboxymethyl compound

INVENTOR(S): Djafar, Roger Rachid; Benke, Alan Henry

PATENT ASSIGNEE(S): Stauffer Chemical Co., USA

SOURCE: Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 256608	A2	19880224	EP 1987-201554	19870817
EP 256608	A3	19890308		
EP 256608	B1	19920408		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, NL, SE				
DK 8704192	A	19880219	DK 1987-4192	19870812
DK 170456	B1	19950911		
JP 63051307	A2	19880304	JP 1987-200123	19870812
JP 08025849	B4	19960313		
BR 8704213	A	19880412	BR 1987-4213	19870813
CA 1309266	A1	19921027	CA 1987-544516	19870814
FI 8703549	A	19880219	FI 1987-3549	19870817
FI 85322	B	19911231		
FI 85322	C	19920410		
NO 8703454	A	19880219	NO 1987-3454	19870817
NO 172023	B	19930222		
NO 172023	C	19930602		
ZA 8706068	A	19881026	ZA 1987-6068	19870817
HU 47952	A2	19890428	HU 1987-3693	19870817
HU 205614	B	19920528		
IL 83571	A1	19910718	IL 1987-83571	19870817
AT 74487	E	19920415	AT 1987-201554	19870817
ES 2032290	T3	19930201	ES 1987-201554	19870817
RU 2038790	C1	19950709	RU 1987-4203108	19870817
US 5047079	A	19910910	US 1988-233257	19880718

PRIORITY APPLN. INFO.:

US 1986-897240 19860818

EP 1987-201554 19870817

AB Preparation of a solid, phytoactive composition comprises: (a) reacting an acid form

of a phytoactive N-phosphonomethyl-N-carboxymethyl compound with a liquid amine to form the amine salt; (b) admixing the amine salt with a molten surfactant, the surfactant being solid at ambient temps.; and (c) cooling the mixture to a temperature below the m.p. of the surfactant to form a composition

comprising the surfactant and the amine salt of N-phosphonomethyl-N-carboxymethyl compound interdispersed in the matrix thereof and which is solid at ambient temps. N-phosphonomethylglycine isopropylamine salt (42.5 g) was added to molten 12.5 g Tetronic 908 (ethylene oxide-propylene oxide block copolymer) to give a solid composition

IC ICM A01N025-14

ICS A01N057-20

CC 5-3 (Agrochemical Bioregulators)

IT Defoliant

Herbicides

Plant hormones and regulators

RL: BIOL (Biological study)

(phosphonomethylcarboxymethyl compound formulations, solid)

IT 1071-83-6D, N-Phosphonomethylglycine, amine salts 2439-99-8D,

N,N-Bis(phosphonomethyl)glycine, amine salts 38641-94-0,

N-Phosphonomethylglycine isopropylamine salt

RL: PROC (Process)

(solid formulations of)

IT 1071-83-6D, N-Phosphonomethylglycine, amine salts

38641-94-0, N-Phosphonomethylglycine isopropylamine salt

RL: PROC (Process)

(solid formulations of)

RN 1071-83-6 HCAPLUS

CN Glycine, N-(phosphonomethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



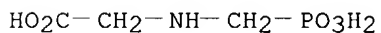
RN 38641-94-0 HCAPLUS

CN Glycine, N-(phosphonomethyl)-, compd. with 2-propanamine (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 1071-83-6

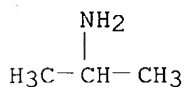
CMF C3 H8 N O5 P



CM 2

CRN 75-31-0

CMF C3 H9 N



Qazi 10/714,870

June 24, 2004